INSIDE: ALL HAIL THE "FLYING POTATO"!

Montana Outdoors

MONTANA FISH, WILDLIFE & PARKS | $4.50

JULY–AUGUST 2024

TIME TO CALL IT A DAY

Helping trout with hoot owl regulations and self-restrictions

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MONTANA'S BEST BIRD BS-ERS
PAYING ATTENTION WITH A PEN
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THAI WILD TURKEY AND CASHEW STIR FRY

Montana Outdo

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BELTING ONE OUT A western meadowlark sings at Freezout Lake Wildlife Management Area. See page 28 to learn how to identify this and 11 other grassland species. Photo by Kyle Moon

COVER Trout generally fare well in spring-fed creeks like this one during hot weather, but often suffer in rivers fed mainly by Montana's dwindling snowpack. See page 18 to learn what anglers, guides, and FWP are doing to help heat-stressed trout. Photo by Jeremie Hollman

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Why I don't hunt elk any more

Andrew McKean's rendition of ongoing research into what may be driving elk out of high-country landscapes in Montana's northwestern and western national forests ("More Mountain Meadows," November-December 2023) helps explain why I've suspended all my elk hunting in Montana. Yes, after 55 years hunting elk in my home state, I stopped. I believe our warming climate is indirectly causing shifts in the elk population dynamic, whereby they generally no longer appear in many of my secret high pastures and security cover areas where I once harvested elk almost annually. Even more disheartening is that there remains little or no evidence of elk use (tracks, beds, elk scat, rubs, and wallows) of those once-productive areas. So I am off to doing other fall activities rather than spending time hunting elk on public land.

I support FWP's Dr. Kelly Proffitt's and other researchers' efforts in finding answers and solutions. But the timber management treatment option does not appear so productive as it did 20 to 50 years ago when I was in the thick of elk hunting. Not only has the climate changed, we also have another predator in the mix: wolves. Even though the numbers don't bear out that wolves significantly reduce elk herds, I wish to see more research on how wolf packs may bump elk out of their traditional comfort areas and how they affect elk usage patterns over their range.

Archie Harper
Helena

Too many trout being caught?

I read the article "What's Up Down There?" (March-April 2024) with great interest. I appreciate your excellent use of technology complemented by creel surveys to determine what the heck is going on with our declining trout populations. I would add the following questions to the creel questionnaires in addition to how many and what species: What were you fishing with (lures, bait, dry flies, nymphs, streamers, or multiple flies like hopper-dropper combinations)? And how many did you release? I believe that many guides and anglers are competing to catch as many fish as they can. Thus, subsurface "lures" currently dominate. There are estimates that the mortality rate for released trout is between 10 to 30 percent. As a result, the more fish caught, the more the population declines regardless of the catch-and-release ethic.

Michael Beltramo, PhD
Belgrade

MORE
MOUNTAIN
MEADOWS
Could revitalizing high-country pastures in northwestern Montana lead to more huntable elk on public land?
BY ANDREW MCKEAN

Off to the Hawkeye State

The excellent informative article on Motus towers ("So *That*'s Where They Go," March-April 2024) really caught my attention. Here in Iowa, there has been an initiative with the Iowa Department of Natural Resources to build a network of Motus towers across the state. Soon after becoming operational last fall, two of the three towers that our local Audubon chapter promoted received detections from birds tagged in Montana. A Swainson's thrush, tagged in western Montana, was detected in Waterloo and then flew all the way to Paraguay. These detections connect us to all parts of the world and emphasize the importance of preserving and maintaining quality habitat for birds and other animals across the globe. As an annual visitor to Montana, your fine magazine helps me stay connected to the state all year round. Thank you.

Tom Schilke
Waterloo, IA

Europe not a model

I find it upsetting that you would print something that promotes the European model of hunting ("Do the Right Thing" sidebar: "A Bigger Threat?" September-October 2023). In Europe, only the rich and the elite get to hunt. The landowner "owns" the game and the general public has no control. Our founding fathers made sure that wildlife belongs to everyone. There are many in this country who now think they too own the game on their property and would love to see our system changed. This must not be allowed to happen.

Gary W. Sutherland
Brodhead, WI

Bear spray defuses conflict

The article "Do the Right Thing" was timely and appropriate. A short column on ethics in every issue would be a good idea. We should also emphasize that everyone who recreates on our public lands should be ethically bound to be prepared to do so without causing harm to the land or its critters. For instance, anyone recreating in bear country should be prepared to deal with an encounter without killing the bear. It is clearly established that bear spray is much more effective than a firearm in bear-human situations. And it protects both species from harm by defusing the encounter. Responding first with a firearm is much more likely to escalate the situation and result in harm to the person, the bear, or both.

Gene Ball
Cody, WY

SO *THAT'S* WHERE THEY GO
New Motus technology helps biologists learn where birds, small mammals, and even butterflies travel throughout the year.
By Sneed B. Collard III

Working Lands Issue

Editor's Note: We received more compliments on the May-June 2024 "Working Lands" issue than any in the magazine's 54-year history. A sampling:

Wow! What an incredible issue! Congratulations to your staff for even undertaking such a huge task in order to give an overview of so many aspects that make Montana, Montana. It definitely gives the gist of many of the elements that make our state what it is, in a broad and understandable way. Mostly, I wanted to give kudos for stepping outside the normal purview of your publication.

Dan Buerkle
Plevna

I want to thank you for the *Montana Outdoors* special issue. I started reading it today and it is wonderful. I am a middle school ELA teacher and the writing in this edition is something that I plan to use as mentor text with my students. I always enjoy the regular issues, but the kids are going to be able to relate to the writing in this one in so many ways. Thank you again for telling the story of Montana.

Karen Hickey
Hobson Middle School

What an amazing issue. It must have been a labor of love to compile all the information, plan the layout and photographs, fact check everything, and get it all done on a deadline. Good work on every front. I have lived in Montana for 50 years, and there are so many things I've wondered about, like how a grain elevator works. Now I find myself marveling at the issue, glad for the new bits of knowledge and understanding that you've provided. We have a pickup with a camper, and the magazine will be in one of the seat pockets, as you suggested, ready to consult as we drive to new places this summer.

It makes me think of the words of Baba Dioum: "In the end we will conserve only what we love; we will love only what we understand; and we will understand only what we are taught." Dioum was a Senegalese forestry engineer, but his words apply to all wild and beautiful places, and Montana especially.

Nancy Filbin
Bozeman

As a native Montanan I am very impressed with the May-June 2024 issue. The pictures are fantastic, and the articles are very informative. Job well done.

Rep. Russ Miner
Montana House District 19, Great Falls

Absolutely outstanding issue! All of your issues are excellent, but this one is really appreciated.

I was born in Plentywood and raised in Glendive. My husband's parents were born and raised in Froid. My husband and I are subscribers to *Montana Outdoors* as we miss Montana dearly. Thank you for this stellar issue.

Mae Johnston
Phoenix, AZ

With deep appreciation I greatly commend the brilliance of conceiving and creating "A Driver's Guide to Montana's Working Lands." Thank you for your continued excellence. It is truly an exceptionally wonderful surprise among your excellent *Montana Outdoors* editions. In 2018 I began living in Billings; proximity to grandchildren and family were the motivators to relocate from Illinois. Frankly, I've struggled to grasp what makes Montana "tick" as I observe what seems too little butter on too much bread. "Working Lands" has brought non-city Montana and its spirit to

vivid life in a way that engenders deeper respect and understanding for those "Working Lands" folks who love, laugh, and labor for a living with reverence in this beautiful state. I've driven for years in "working lands" without a full understanding of the many aspects of the rural economy and the life that you have enlightened me of by writing and illustrating it so very well.

Todd A. Ross
Billings

Your decision to devote an entire issue to rural Montana was a brilliant one, and it was even more brilliantly executed. I normally scan each issue the day it arrives and note the articles I will later want to read in depth. But when I started to scan this issue, I found so much of interest that I couldn't immediately put it down, so two hours later I was still reading articles, and I've returned to reading them a number of times since. Putting so much information together in one place must have been a prodigious job, and you and your staff are to be highly complimented. And it goes without saying that this issue exceeds even the high standard of all your issues.

Rolf Horn
Sacramento, CA

I'm related to a long line of Montana farmers. I don't live in Montana, but I read *Montana Outdoors* and love my return visits to the family and to hunt and fish. I'm also an agricultural historian at a large land grant university. As you can imagine, I appreciate your new May-June issue. What a smart and thoughtful way to remind all of us that agriculture and wildlife are linked.

Matthew Booker
Raleigh, NC

LETTERS

I just finished reading my copy of "A Driver's Guide to Montana's Working Lands," (May-June 2024). Well done! Every issue of *Montana Outdoors* is an excellent piece of work, but you guys outdid yourselves this time. As a Montana native, I take many of the topics discussed in this issue for granted. But reading through the magazine reminded me again why I love Montana so much. I also appreciate how you discussed the complex relationship between our abundant wildlife resources and the industries which provide many of us our livelihoods, such as agriculture, energy, and transportation.

Jason Rorabaugh
Belgrade

The latest edition of *Montana Outdoors* is fabulous. This is a truly wonderful contribution to understanding Montana's working lands.

Tom Schenkenberg
Salt Lake City, UT

I've read *Montana Outdoors* for many years, enjoying the state also by fishing all over the western portion. Never have I been so impressed as I was with the "special issue" of May-June. I feel it mandates my appreciation and attention to it beyond the ordinary. It is a veritable encyclopedia of not just valuable, but precious information; praiseworthy descriptions of Montana; and the state's complete geographic, economic, and philosophic excellence. May *Montana Outdoors* never pause in its excellence of mission to make Montana "real."

Ron Boothe
Kingston, ID

A friend of mine in Geraldine, Montana, has sent me a copy of your latest magazine, and I thought it was great! I live in Geraldine, New Zealand—a town

"Your excellent coverage gave me a greater understanding of your state. Though our climates are totally different, some farming practices and future problems are similar to here in NZ."

of about 2,500 people for the surrounding farming/cropping/logging industries. I have had an interest in Montana for some time (although I have yet to visit), and your excellent coverage of all things happening there gave me a greater understanding of the state. Though our climates are totally different, some farming practices and future problems are similar to here in NZ. Best regards—and keep producing this excellent magazine.

David Jennings
Geraldine, New Zealand

Thank you so much for the latest issue of *Montana Outdoors* magazine. I have lived in Montana my whole life, and this issue had so much information about our wonderful state. I recommend your magazine all the time. Top notch!

Julie Stout
Belgrade

The special issue of *Montana Outdoors* is a keeper. I have lived and worked in Montana since 1972 and traveled the state extensively and am familiar with almost every subject in the issue. The issue reminded me of places I had forgotten and a few places I still need to visit. Good subjects, well written and nicely presented.

Michael Babcock
Great Falls

"A Driver's Guide to Montana's Working Lands" is perhaps the best issue yet. It contains so much useful information for anyone willing to read for a deeper understanding of Montana's natural resources and rural culture, but more importantly what this beautiful place is losing right before our eyes. More and more Montanans are recognizing that ever-increasing outsider growth is foolish and shortsighted. Worse, it serves no purpose except resource destruction. The wildlife, untrammeled places, and cultural heritage of this last great place in the Lower 48 deserve our best efforts.

Paul Schnell
Noxon

The recent special issue was a true treat to read and share. Please extend my gratitude to your team and congratulations for a work well done. The subjects selected, the fair and well-written sections, plus the interesting and professionally commendable layout of the issue were excellent and informative. I believe the goal described in the introduction was achieved in an exemplary way.

James D. Mortimer DVM
Beulah, WY

You are the only magazine I currently subscribe to for a reason. Your content and pictures are outstanding! The latest special issue is truly special! Thanks for all you do. This issue really does a lot to promote and educate about your great state.

Greg Odde
Aberdeen, SD

"A Driver's Guide to Montana's Working Lands" is outstanding. It is so complete and thorough it will have a place on our bookshelf as a reference book. I wish everyone could read it.

The Sullivans
Libby

Just received my May-June 2024 Special Issue copy of *Montana Outdoors*. Best issue ever! As an old Indiana-raised farm boy with almost 30 trips to Montana over the years, wandering, sightseeing, hunting, exploring, and just road tripping, the thought went through my mind, "Why didn't I move to Montana years ago when I was younger?" Thanks for letting me live the fantasy through your magazine.

Jerry R. Ream
Fort Wayne, IN

Different perspective

The latest issue of *Montana Outdoors*, while championing so-called "working lands," neglected to point out that agriculture is one of the most destructive human activities on the planet. The photo of ag fields going on to the horizon on pages 8 and 9 makes the point. A field of wheat consists of a single species of grass that is annually mowed down, while the soil is plowed up, exposing it to wind erosion and, in too many cases, lots of pesticides, fertilizers, and other chemicals that pollute our waterways. Furthermore, agriculture holds the dubious distinction of being the largest consumer of water in the state. This excessive water usage not only dries up rivers but also wreaks havoc on aquatic ecosystems, further exacerbating the environmental impact of agriculture.

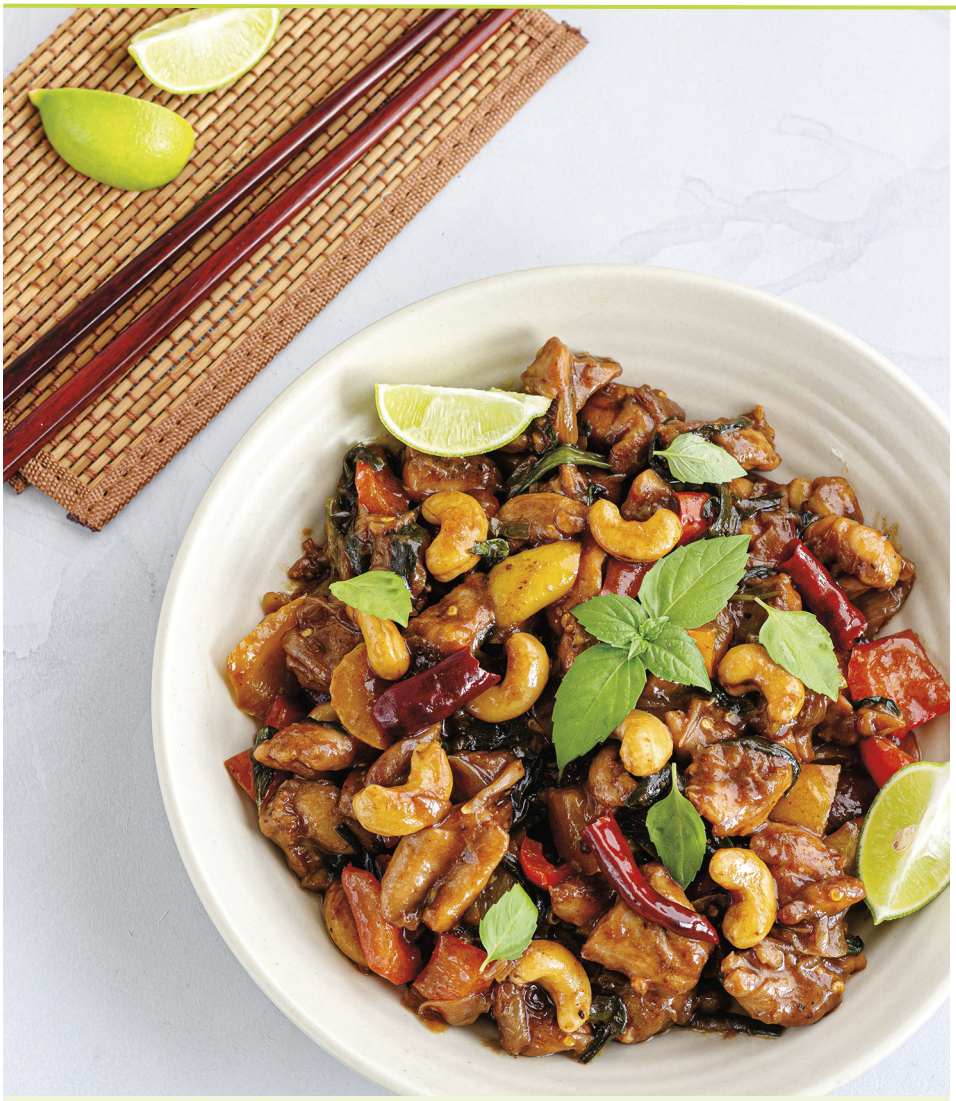
George Wuerthner
Livingston

CORRECTIONS

In the May-June 2024 "Working Lands" issue: The photo on pages 8-9 is of the Teton River in Teton County, not the Marias River in Toole County. And on page 10, Earl Butz was the USDA secretary during the Nixon and Ford administrations, not the Carter administration.

Thai Turkey and Cashew Stir Fry

By David Schmetterling | Preparation time: 20 minutes | Cooking time: 10 minutes | Yield: 4 servings



PHOTOS: SHUTTERSTOCK

In most Chinese or Thai restaurants, you will find dishes combining chicken and cashews. The recipe shown here began as Chinese-inspired cuisine but is a Thai version. It's less saucy, has fewer ingredients, and contains stronger flavors. The use of oyster sauce shows its kinship with Chinese and northern Thai heritage, like so many dishes I learned to cook when I lived in northern Thailand. This delicious stir fry is easy to prepare, is packed with flavor, and cooks up quickly. Tailor the spiciness to your taste by adding as many chilies as you like.

This dish is a great way to use the breast of a wild turkey, pheasant, or dusky (blue) grouse. And of course chicken works well, too. Breast meat can dry out if cooked too long, but with this or any other stir fries, you cook the meat quickly over high heat, stirring often, and for just a few minutes, so it doesn't overcook. ■

—David Schmetterling, FWP fisheries research coordinator, lives in Missoula.

INGREDIENTS

- ¾ lb. wild turkey breast meat (or pheasant, mountain grouse, or even chicken), sliced into ½- x 2-inch pieces
- ¼ c. vegetable oil
- 2–4 cloves garlic, crushed
- 2 T. oyster sauce.
- 1 bunch of scallions (green onions), cut into 2-inch lengths
- 1 to 5 whole dried red chili peppers or ¼ to 1 t. dried pepper flakes (add as much heat as you want)
- ¾ lb. unsalted roasted cashews (roughly 3 c.)
- Several large lettuce leaves set upon a serving platter
- 1 lime, quartered (optional)
- white rice

DIRECTIONS

Measure out all the ingredients before heating the oil, because the cooking process happens quickly.

Heat oil on high in a wok or a deep skillet. Once the oil is shimmering (but not yet smoking) add crushed garlic and stir until just golden brown. Be careful not to burn the garlic. Immediately add the breast chunks and oyster sauce and stir, coating the meat.

Stir continuously for a few minutes, reduce heat to medium, and add the scallions. Stir, add red chili peppers or flakes, and stir again.

Stir in the cashews so everything is coated, and cook for another minute. Remove from heat.

Place the finished stir fry on the lettuce leaves atop the serving platter. Top with a squeeze of lime if desired. Eat with steamed rice. ■

More recipes from *Montana Outdoors*

Habitat leases are another great option for helping wildlife

How does FWP conserve critical wildlife habitat on private land where existing programs don't work for some landowners?

By creating a program that does.

That's what we have done with habitat conservation leases. Under these voluntary, incentive-based agreements, landowners commit to specific land-management practices that protect priority wildlife habitat, such as not converting native prairie into plowed row crops, or not burning sagebrush to create more rangeland. In return, FWP pays the landowner a one-time per-acre fee—15 to 20 percent of the land value—for the lease. The leases last 30 to 40 years depending on the fee.

Habitat conservation leases are just the latest FWP option for conserving critical wildlife habitat. For years, our department has purchased land and bought conservation easements (CEs) where there's support from landowners, local officials, and the community. We continue to do so whenever there's the opportunity.

For instance, in the past few years this department has bought three new wildlife management areas (WMAs): 5,677-acre Big Snowy Mountains WMA north of Ryegate, 772-acre Bad Rock Canyon WMA near Columbia Falls, and 328-acre Wildcat WMA along 2.2 miles of the lower Yellowstone River near Forsyth.

During that time, FWP has also purchased the 22,350-acre Kootenai Forestlands CE near Libby, 3,400-acre Ash Coulee CE near Hinsdale, and 540-Sweathouse Creek CE in the Bitterroot Valley.

Another new WMA acquisition and several CE contracts are now in the works.

But fee-title acquisitions for WMAs and buying conservation easements don't work for some landowners. They may want to protect wildlife habitat but not sell their land or encumber their property with a CE that lasts "in perpetuity" (forever). A habitat lease may be a better alternative.

We're excited about habitat leases because they have the potential to protect vital wildlife lands, especially eastern Montana sagebrush prairies and grassland wetlands, that might otherwise be lost. Habitat leases that protect sagebrush could help keep the sage-grouse from being listed as a federally endangered species. Wetland protections will benefit waterfowl and other water birds.

Our goal is to use habitat leases to secure 500,000 acres over the next five years. That's on top of what we'll protect with traditional fee-title acquisitions and conservation easements in Montana.

Habitat lease funding will come mainly from Habitat Montana. The program uses funds from big game hunting licenses sales to conserve, as the enabling 1987 legislation states, "important [wildlife] habitat that is seriously threatened." We will also use Habitat Montana funds to leverage additional federal dollars for habitat leases.

Most habitat leases will provide for some public recreation access. But as with FWP conservation easements, U.S. Fish & Wildlife Service easements, and many land trust easements, the primary purpose of this new habitat program is wildlife conservation.

Protecting wildlife habitat has always required innovation. Selling federal waterfowl stamps to create national wildlife refuges was a novel idea back in 1934. The same is true with the Pittman-Robertson bill, Montana's first purchases of elk winter range in the late 1930s, and, later, FWP's acquisition of land converted to wildlife management areas. Conservation easements were a new idea when first introduced in the 1980s, and they and fee title acquisitions continue to be a key part of Montana's habitat programs.

Now we also have habitat leases, yet another option and part of a long tradition of devising new ways of working with landowners to secure critical wildlife habitat that otherwise might be developed.

—**Dustin Temple,** *Director, Montana Fish, Wildlife & Parks*

This issue went to press two weeks before the Montana Fish and Wildlife Commission's June 20 meeting, during which commissioners were expected to decide whether to support the department's proposal to purchase habitat leases on several eastern Montana properties. Check the FWP website for meeting results. And to learn more about the program, type "Montana FWP Habitat Lease Program" into your search engine.

Habitat leases could protect vital habitats like this sage-steppe prairie in the Centennial Valley for decades.

MARK C BOESCH

JEREMIE HOLLMAN

MR. CLEAN

ELI SULTZ
FWP Recreation Technician, Wayfarer's State Park, Flathead Lake

AS A RECREATION TECHNICIAN, my job is to keep the popular Wayfarer's State Park latrines and showers clean, as well as help with grounds cleanup and assist the campground hosts in helping park visitors.

I've always been a big fan of Montana's state parks. As a kid growing up in Kalispell, I would bike 3 miles from our house to Lone Pine State Park with my friends or on my own. The park was basically our playground, and we'd hike around or check out the interpretive displays in the visitor center.

A few years after high school, I volunteered at the park pulling weeds and helping with general maintenance. After the park manager, Amy Grout, moved to Flathead Lake to manage the five parks there, she invited me to apply to be a recreation technician.

I've had this job since 2018. It's a great fit because I'm big on customer service and the outdoors, especially hiking and mountain biking. I get to spend all summer on Flathead Lake talking to visitors from all over the United States and even the world, helping them have the best experience possible.

I think Flathead Lake is one of the most beautiful and pristine places on the planet, and it's an honor for me to be able to contribute to visitors' positive experience of this remarkable area. What I hope is that when they get back home, they not only remember the beauty of Flathead and the park but also that the facilities were clean, the grounds were well maintained, and the staff were friendly and helpful.

Giant Springs at Giant Springs State Park in Great Falls is one of the largest freshwater springs in North America, and the leafy, green, tree-shaded state park itself is Montana's most visited. On a recent visit, Helena-based photographer **Kevin League** focused his attention and camera lens on the visual symmetry of the springs pool and the circle of rocks placed years ago to create it.

"I like my photographs to have a strong foreground as a leading element that draws the viewers in," League says. "I walked out onto the boardwalk and set up so I was shooting exactly in the middle of the circle with my widest lens to take in as much of the scene as possible. To emphasize the soothing feel of the water flowing over the rocks, I used a very slow shutter speed. Making the shot even more attractive are the beautiful colors of the rocks and the wonderful range of greens in the background.

"Though the park was busy that morning, I waited to take this shot until no one was nearby. I wanted to give viewers the sense that this remarkable spring and state park were theirs exclusively." ■

#1 Rank of Montana among all states in the production of lentils and dry peas.

The state's new drought plan provides advice for landowners, businesses, and homeowners to conserve Montana's dwindling water supplies for agriculture, municipal use, fisheries, and recreation.

Could drones help keep wolves away from cattle?

The U.S. Department of Agriculture is funding a study to see if drones might be be an option for preventing wolves from attacking livestock. In 2022, a research team with the USDA Animal Plant Health Inspection Service (APHIS) Wildlife Services National Wildlife Research Center in Utah fitted drones with thermal cameras and speakers. During a study period on a ranch in Oregon, a state where wolves are federally protected, human voices from the speakers scared wolves away from cattle and significantly reduced depredation.

To hear the lead researcher Dustin Ranglack talk about the study and see footage of the drones scaring wolves from cattle, scan the QR code below or visit youtu.be/qMKFVtQ4vvU. ■

WATER CONSERVATION

Updated drought plan offers water-saving measures

Montana state agencies can't produce more rain and snow, but they can find ways for irrigators, municipalities, and state and county policymakers to more effectively conserve what precipitation does fall on Montana each year.

In December 2023, the state released its updated drought management plan, the first revision since the original plan was developed in 1995. The updated plan provides guidance on drought monitoring and assessment, temperature and precipitation forecasts for the next several decades, and projections on how warming temperatures will affect Montanans.

It also includes 36 recommendations for retaining more water in the Treasure State, such as protecting natural water storage features like wetlands, improving existing reservoirs and other developed storage facilities, and installing low-flow faucets and other water-saving plumbing alterations.

The plan's goal, say officials with the Montana Department of Natural Resources and Conservation, which coordinated the plan update with FWP and six other state agencies, is to build greater drought resilience across Montana.

The plan's release came before one of the worst statewide snow seasons on record. Snowpack percentages as of May 1 ranged from 40 percent to 75 percent of normal across Montana, according to the Natural Resources Conservation Service (NRCS) Montana Water Supply Outlook Report.

When this issue of *Montana Outdoors* went to press, the U.S. Drought Monitor map classified 35 percent of Montana as being in moderate to extreme drought.

To read the Montana Droght Management Plan, view current conditions, and access monitoring data and federal support programs, visit https://drought.mt.gov/. ■

CLOCKWISE FROM TOP LEFT: MIKE MORAN ILLUSTRATION; SHUTTERSTOCK; SHUTTERSTOCK

WETLAND PROTECTION

Art-adorned Montana state bird stamp is back

After a 22-year absence, Montana again has a state migratory bird stamp that actually features a migratory bird. The image of a northern pintail drake, by Florida artist John Nelson Harris, was selected from among more than 70 submissions from artists across the United States. Harris has painted images for more than a dozen conservation prints and stamps, including duck stamps for California, Oklahoma, and Washington.

The citizen-based Montana Wetlands Protection Advisory Council selected the winner in January.

Montana first began holding a migratory bird stamp contest in 1986 and featured winning paintings on its annual state migratory bird stamp (license). The contest was discontinued in 2002 due to a lack of entries. Since then, the "stamp" was just an imprint of that word on hunting licenses.

FWP decided to restore the stamp contest to raise awareness of the state's Migratory Bird Wetland Program, which uses duck hunting license revenue to protect and revitalize these vital wildlife ecosystems. "Intact wetlands benefit fish and wildlife, as well as landowners and communities," says Dustin Temple, FWP director.

To hunt migratory birds, hunters need a current Montana migratory bird license and a federal duck stamp, the same as in years past. Beginning in 2024, those who purchase the state license will receive by mail a free collectible stamp (actually a peel-off sticker) depicting the winning artwork, along with information about the Migratory Bird Wetland Program and information about how to make additional contributions.

Hunters aren't the only ones who can help wetlands by purchasing a migratory bird license. "Birders and other conservationists can also contribute by buying a state migratory bird stamp, the federal duck stamp, or both," Temple says. ■

Montana's new state duck stamp, featuring a drake northern pintail in flight, is aimed at raising awareness of wetlands protection and the value of these watery ecosystems.

FROM TOP RIGHT: ESTELLE SHUTTLEWORTH; MONTANA FWP

Named for Meriwether Lewis, who first described the species for science, Lewis's woodpecker will likely be among the birds given more descriptive names.

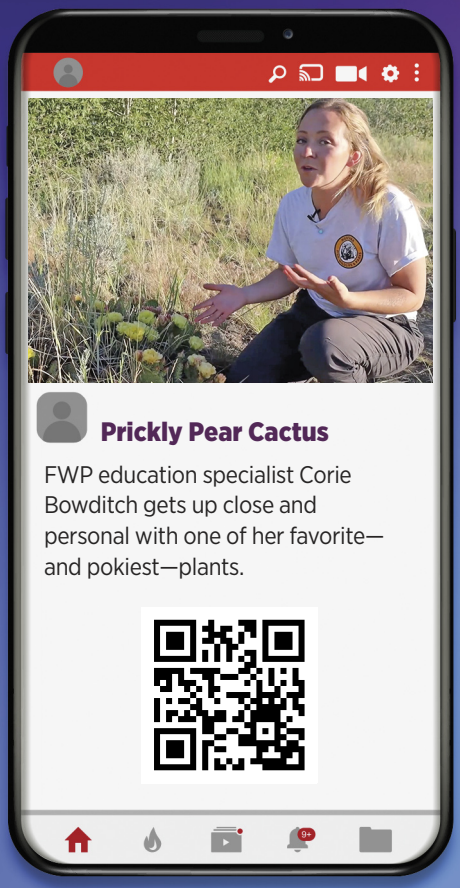
New names slated for some bird species

The American Ornithological Society (AOS) recently announced it will change the names of more than 260 North and Central American birds. The decision follows recommendations from a committee of prominent birders and ornithologists that decided that naming wildlife species after any individual was problematic because the names were not descriptive and imply ownership. Renaming is set to begin in 2024, and over the next several years will eventually cover 263 species, including 45 in Montana. Among those slated for renaming are well-known Treasure State species such as Cooper's hawk, Steller's jay, Townsend's solitaire, Lewis's woodpecker, and Clark's nutcracker.

The American Ornithological Society has said it will establish a new committee that will include individuals whose expertise represents ornithology, taxonomy, the social sciences, education, arts, and communication. The organization has also committed to involving the public in the process of selecting new names.

Renaming animal species is uncommon but not unheard of. In recent years, the blue grouse has been renamed the dusky grouse due to new genetic findings, and the squawfish is now known as the northern pikeminnow. ■

FWP SOCIAL MEDIA SHOWCASE

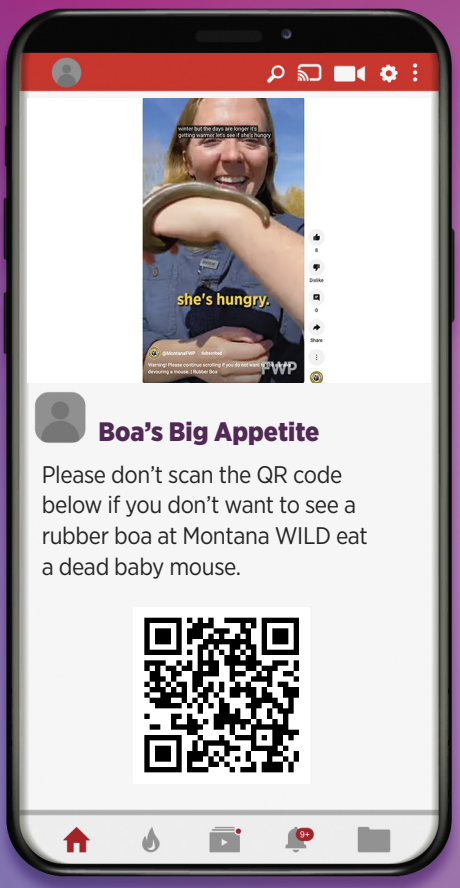


Prickly Pear Cactus

FWP education specialist Corie Bowditch gets up close and personal with one of her favorite—and pokiest—plants.

Warden Wise

FWP videographer Lauren Karnopp accompanies game warden Andy Matakis to show viewers what it's like to enforce Montana fish and game laws.

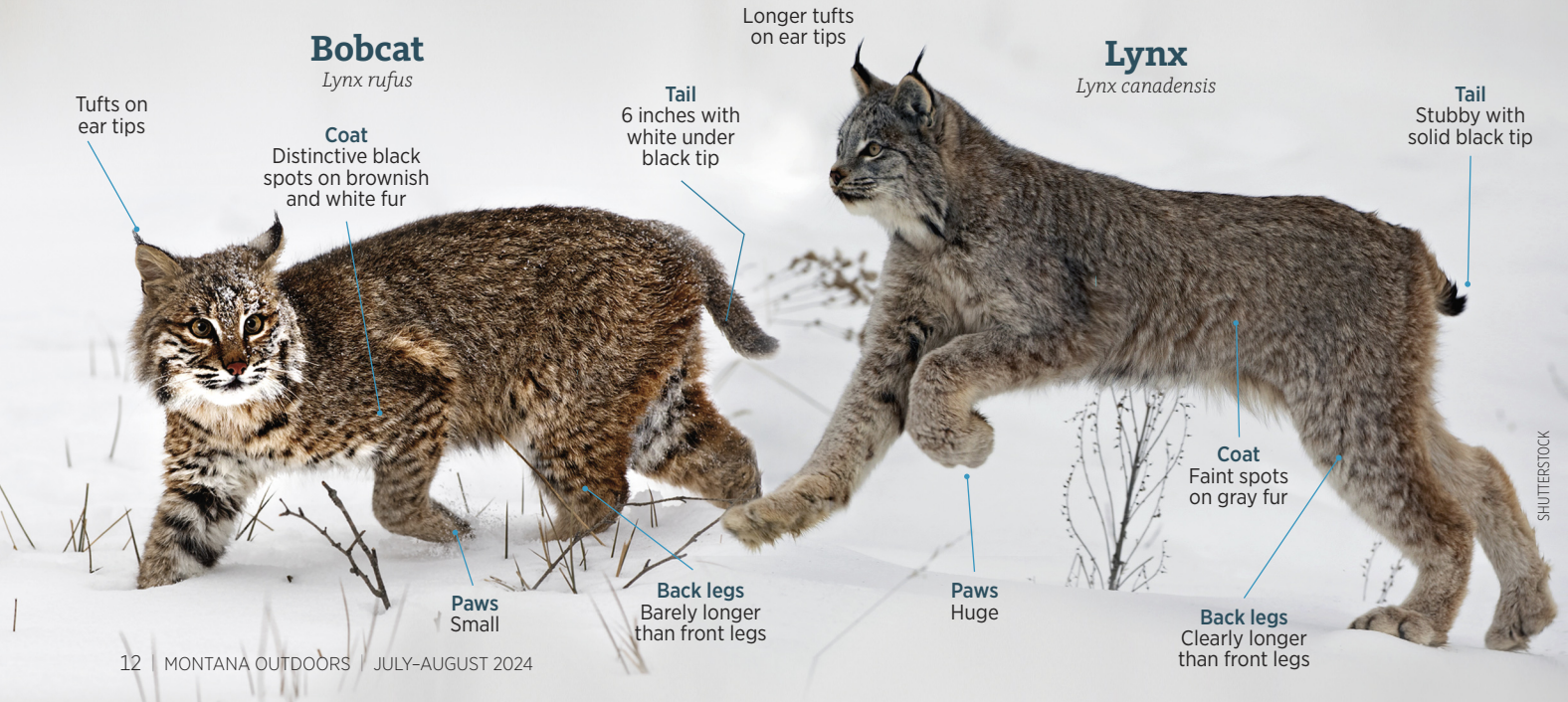


Boa's Big Appetite

Please don't scan the QR code below if you don't want to see a rubber boa at Montana WILD eat a dead baby mouse.

LOOKALIKES *Tips for differentiating similar-looking species*

Bobcats and Canada lynx are members of the cat family native to Montana that look a lot alike and reach roughly the same size (males: 24 pounds; females: 18 pounds). The main difference is that bobcats have distinctive dark spots on a tan, reddish-orange, or light brown coat, while the lynx has only faint spotting on a mostly gray coat. Note that lynx are found only in the mountain forests of western Montana, while bobcats live statewide in a wide range of habitats including mountain forests. So if you see a big short-tailed cat near Malta, for instance, it's likely a bobcat. ■

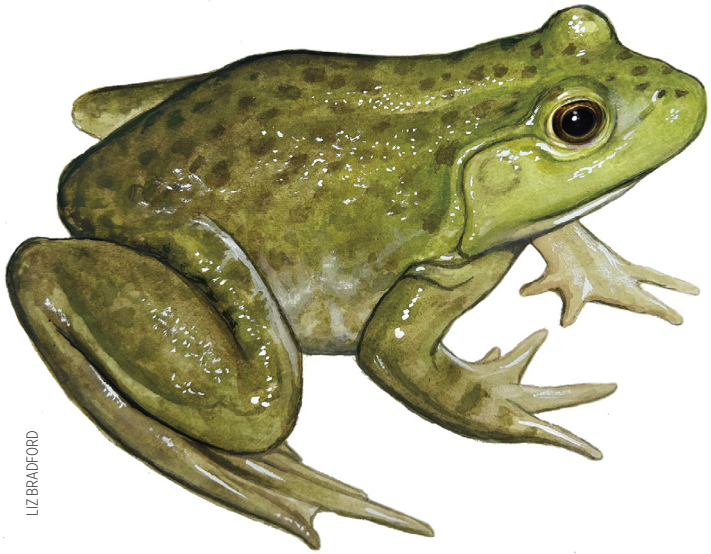


SHUTTERSTOCK

American bullfrog

What they are

Bullfrogs are large, green frogs native to eastern North America. They are harvested in the wild and raised commercially for their legs, which taste like chicken. They are also kept as pets. The species has been distributed into the American West, including Montana, where they devour native amphibians and other small wildlife.



LIZ BRADFORD

How to ID them

Bullfrogs are the largest frogs in North America, reaching 7 inches long in Montana. They are dark green or brownish-green on top with dark blotches and a cream underbelly. Their loud, deep *jug o' rum* call can be heard from a considerable distance.

Where they're found

Bullfrogs are now firmly established in the Yellowstone River floodplain around Billings and are moving upstream and downstream. They are also in the Bitterroot, lower Flathead, middle Clark Fork, and Stillwater river valleys and Flathead Lake.

Why we hate them

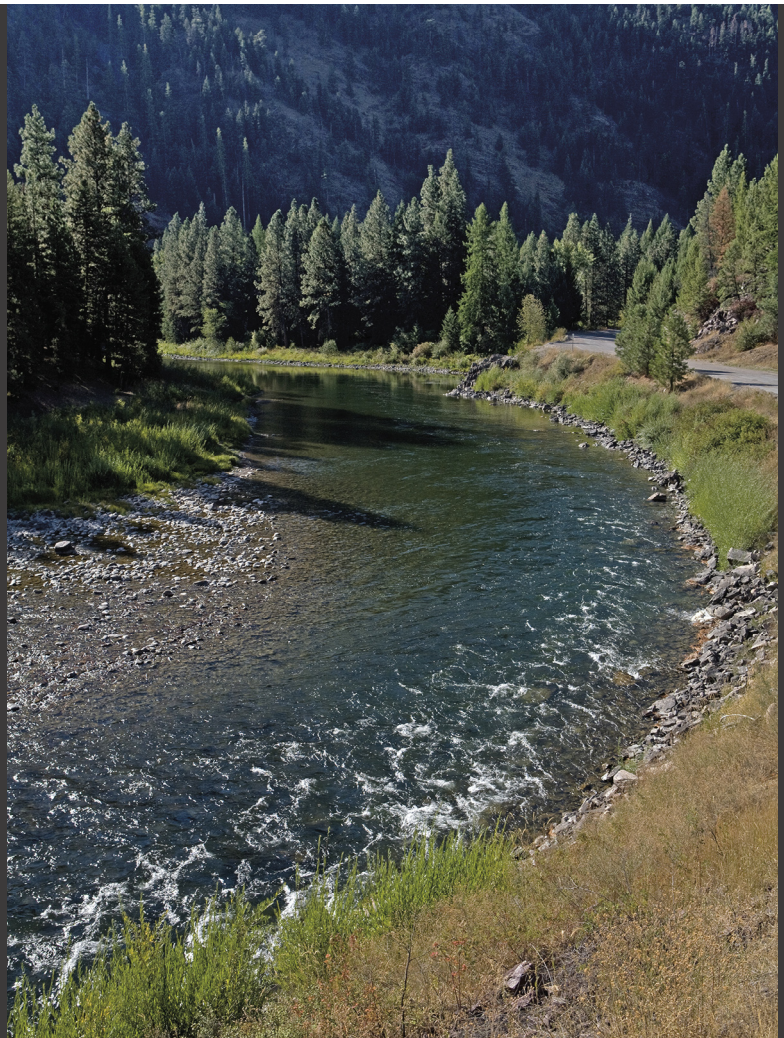
Bullfrogs have voracious appetites and will eat almost anything smaller than they are, including native baby turtles, frogs, toads, and newly hatched ducklings.

How they spread

Bullfrogs enter Montana water when people buy them as pets in pet stores and later release them into the wild, or when people try to raise bullfrogs as food and the amphibians escape confinement.

How to control them

Once established, bullfrog populations can't be controlled. Don't purchase or release pet bullfrogs, and report any field observations to your local FWP office. ■



CRAIG & LIZ LARCOM

A quick look at a concept or term commonly used in fisheries, wildlife, or state parks management.

"Stream Channelization"

Stream channelization is any type of engineering that straightens a natural stream or river into an artificial stream bed or prevents it from overflowing its banks during high water, such as by building a berm or installing riprap along the bank. Channelization is done mainly to prevent the flooding of cropland, pasture, home sites, or communities in a floodplain. The problem for fish is that channelization removes habitat such as pools, undercut banks, and spawning areas, as well as reduces total stream miles. Channelization also "corsets" rivers and streams, preventing the energy of floodwaters from naturally dissipating into floodplains and instead sending the water with even greater force downstream, like from a fire hose. ■

Riprap protects Montana Highway 200 but channelizes the Blackfoot River east of Missoula

DIRECT FROM LAS VEGAS
IMPRESSIONIST
ED MOCKINGBIRD

Feathered Mimics

Some birds can imitate the sounds of other birds—and even a few mammals and electronic devices.

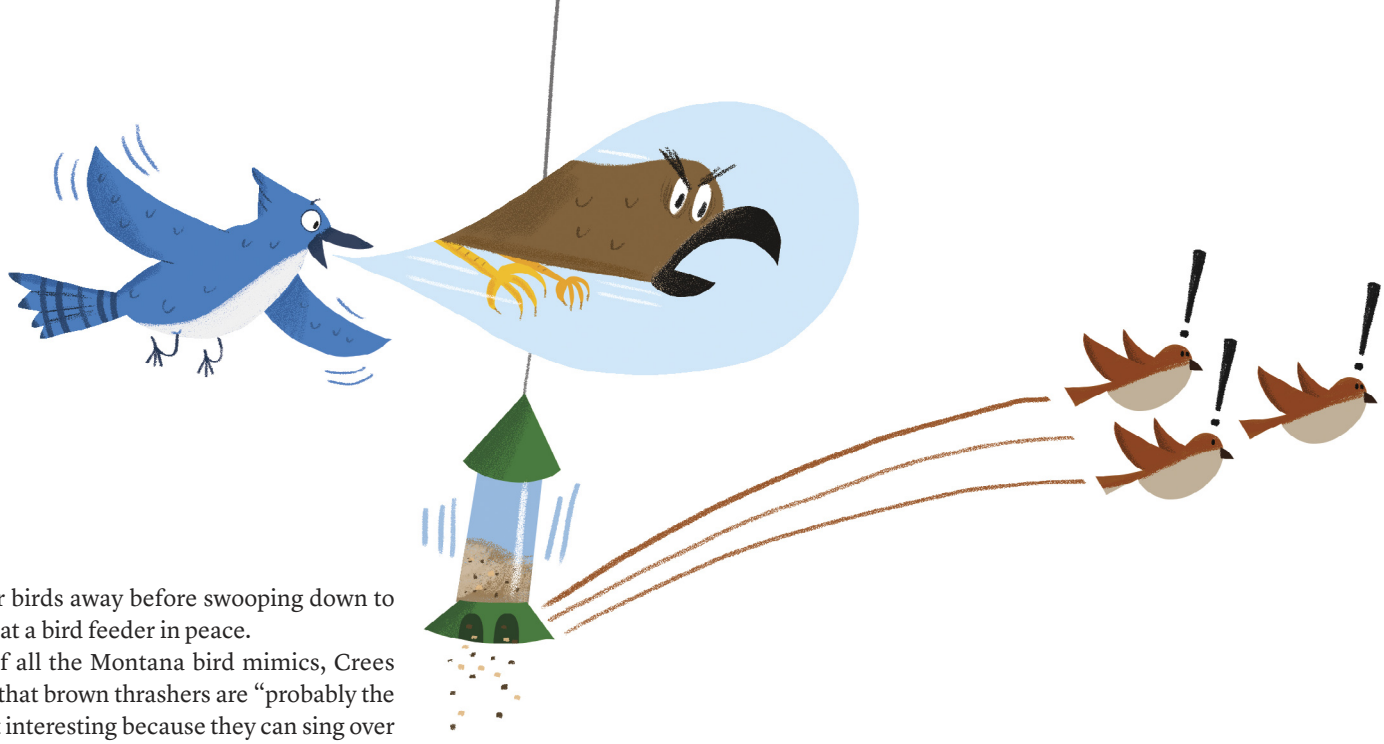
By Amy Grisak
Illustrations by Mike Moran

As a sound recordist for natural history television programs for many years, my job was to record accurate background sound to accompany the video footage. Sitting quietly with headphones and microphone, I focused on capturing sounds like tinkling aspen leaves, the burbling of a river rapids, and, most frequently, various birdcalls—from hawks and loons to warblers and thrushes. I jotted down what I thought I heard without knowing that some of these bird sounds might have been made by imposters.

Several bird species are famous worldwide for their ability to mimic other sounds. People delight in teaching African parrots everything from Shakespearean sonnets to naughty limericks. The aptly named northern mockingbird, possibly the nation's best-known mimic, can learn human speech when in captivity.

But a surprising number of common birds can perform an equally impressive playlist.

"My first encounter with bird mimicry in Montana was the Steller's jay imitating a red-tailed hawk. They're famous for doing that," says Bo Crees, avian specialist for Montana Audubon. Crees says he has also watched (and heard) bluejays, another member of the intelligent and vocal corvid family, make the redtail call to scare



other birds away before swooping down to dine at a bird feeder in peace.

Of all the Montana bird mimics, Crees says that brown thrashers are "probably the most interesting because they can sing over 1,000 different phrases" of dozens of birds, including northern flickers, wood thrushes, and various raptors. Like northern mockingbirds and catbirds, brown thrashers belong to the Mimidae (Latin for "mimic") family, whose name alludes to the members' vocal talents. A brown thrasher copies the songs of bird species in its area, combining bits and pieces in a freestyle pattern that creates its impressive repertoire.

The catbird is another copycat that can rattle through a sampling of neighboring bird sounds. Catbirds are easier than other mimics to identify because, even after prolonged bird ballads, they often end their riff with the raspy "mew" that earns them their name.

A well-known imitator in this family, though rare in Montana, is the northern mockingbird, which sings songs of multiple bird species, as well as everything from a croaking frog to a barking dog to a car alarm. Both males and females sing, and their songs—along with the occasional croak and siren—are more pronounced during breeding season, often continue long into the night.

European starlings have been known to emulate songbirds, coyotes, and even a crying child. American crows impersonate barred owls. The yellow-breasted chat does a great crow imitation.

Why do birds imitate other sounds? In addition to scaring away others from feeders, male mimics use their talents to gain an edge during breeding season. "More songs mean greater genetic fitness, making them more attractive to females," says Allison Begley, avian conservation biologist for Montana Fish, Wildlife & Parks. "The males try to show off that they have a very big playlist." Mimicry can also dissuade rivals from entering a male bird's territory.

As for why some females mimic other birds, it could be self-preservation. "Being able to mimic a big hawk can scare off a smaller raptor or a ground predator," Begley says. "And then there's the burrowing owl, which can sound like a rattlesnake, telling a coyote or other predator that they'd better move along."

IT'S ALL IN THE SYRINX

How birds imitate other sounds is as fascinating as their repertoires. Most have a vocal organ called a syrinx, named after a nymph in Greek mythology who was pursued by the god Pan and turned into panpipes. Unlike a mammal's voice box, which sits atop the windpipe, a bird's syrinx sits in the bottom of the trachea at the brachial fork. This feature allows the bird to move different volumes of air through the syrinx from each lung independently, and then manipulate the sound from the syrinx using their tongue and other muscles to produce a wide array of vocalizations.

Knowing what I do now about bird mimics, I can pretty much guarantee that back

Amy Grisak is a writer and photographer in Great Falls. Mike Moran is an illustrator in New Jersey.

"It's really unusual and a big deal to hear one that early in the season," he says. "But then I realized it was just a European starling mimicking the wood pewee."

when I was a sound recorder, I certainly misidentified some species. Though I'm no longer gathering sounds professionally, knowing about bird imitators helps me better understand what I am hearing when afield looking and listening for winged wildlife.

Bird mimics can fool even birding experts. One day at the Helena Regulating Reservoir, Crees heard a European starling, then a killdeer, an American robin, a red-tailed hawk, and a western wood pewee. "I was watching the starling," he says. "But I put a killdeer on my bird list before realizing that the killdeer vocalization came from the starling." He then watched and heard the starling imitate each of the other three bird species he had thought were in the trees around him.

Another time, Crees visited Council Grove State Park in spring and was thrilled to hear what he thought was a western wood pewee. "It's really unusual and a big deal to hear one that early in the season," he says. "But then I realized it was just a European starling mimicking the wood pewee."

EXPOSING IMPOSTERS

Birding experts have learned a few tricks to keep from getting fooled. One is that if you hear a bird during a time of year when the species is rarely in Montana, it's likely an impersonator. Crees recommends checking published records on the eBird app to see when various species are most often in the Treasure State.

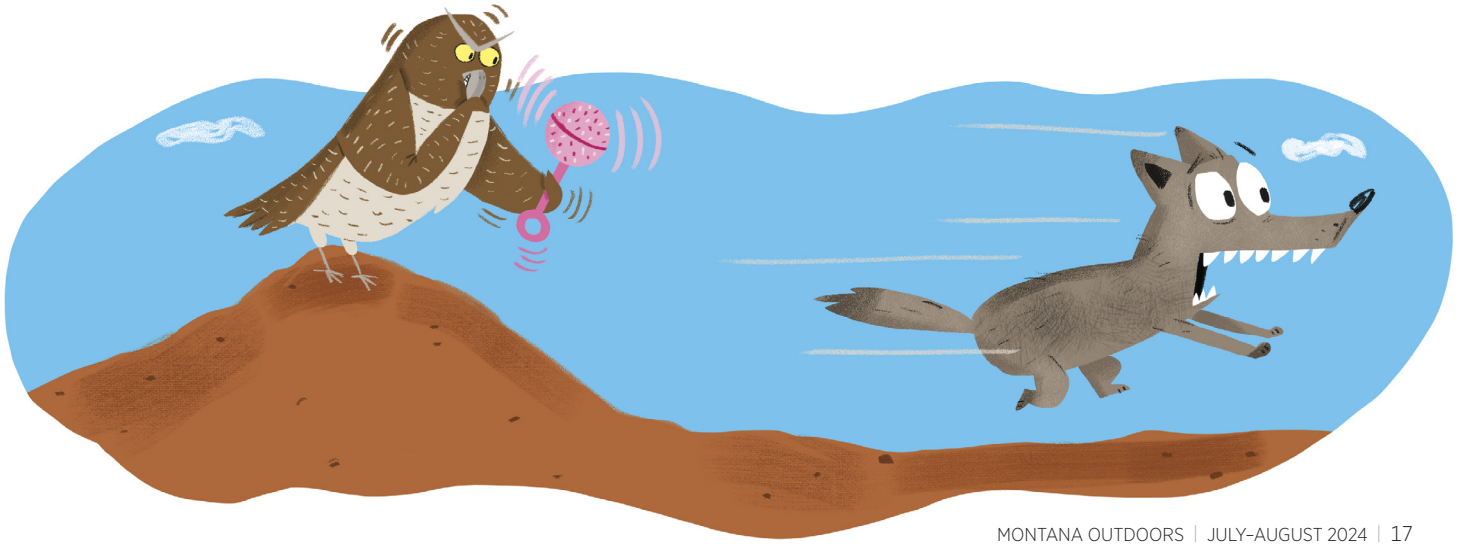
Another tip is to notice if a call is coming during a strange time of day. For instance, owls rarely hoot during midday, and hawks don't usually screech at dawn and dusk. Also note where the call comes from. Some of the best bird mimics—brown thrashers, mockingbirds, and catbirds—are mainly species of shrubs and dense thickets. If you hear a curlew calling from a serviceberry grove, it's probably not a curlew.

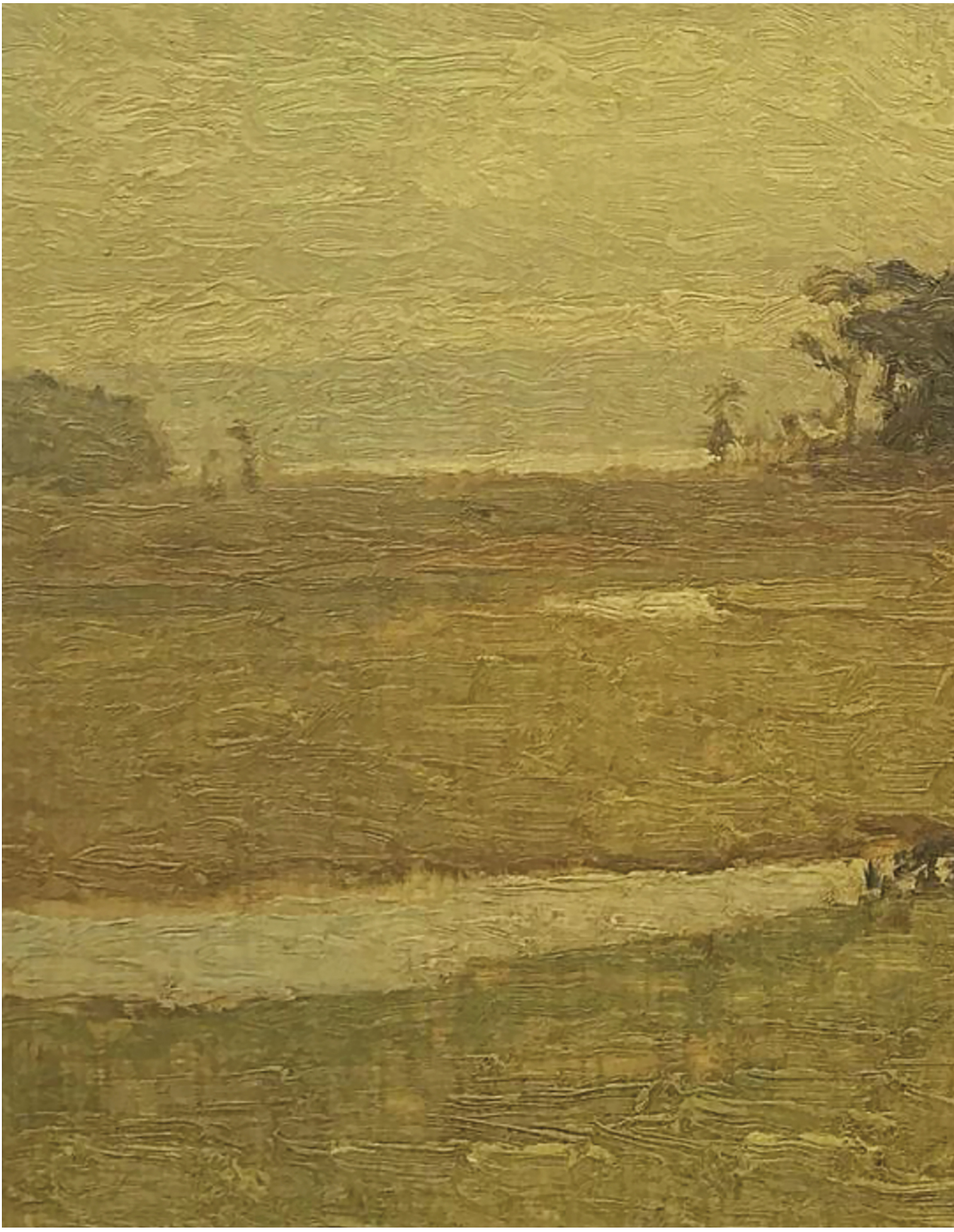
Also, calls from mimics may follow an unusual order. Mockingbirds often imitate the calls of two or three other birds species one after the other. Brown thrashers will sometimes echo the same imitation two or three times. "If you hear the same sound in a repetitive pattern, be suspicious," Begley says.

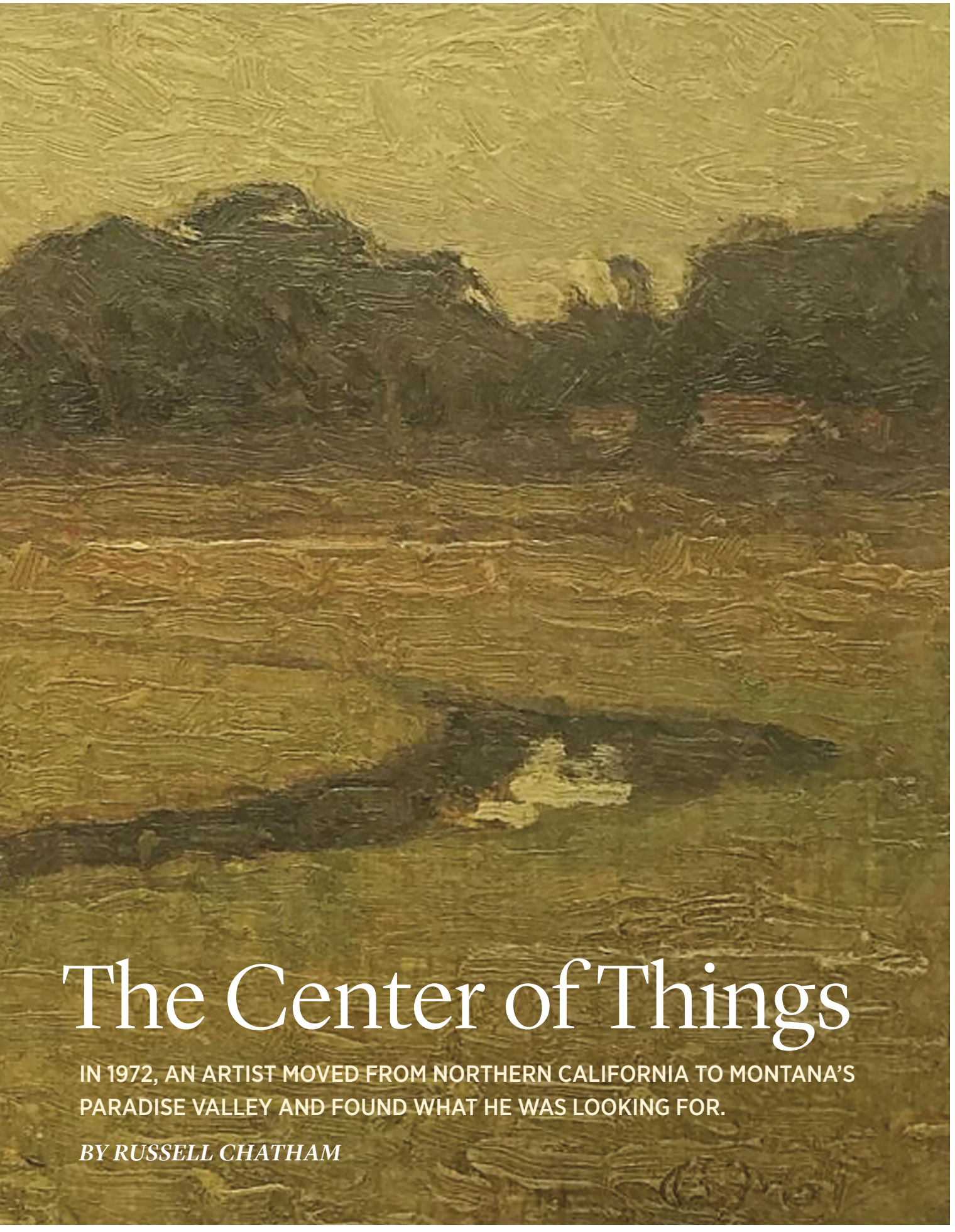
Probably the best way to tell the real deal from a BS-er is to practice listening to birds and learning their habitat. To a beginner, a catbird can sound just like a green-winged teal. But as you gain some expertise, you'll start to notice that the catbird sounds a bit raspier than a real teal.

Also, what would a duck be doing over there in the bushes?

Editor's Note: An easy way to learn authentic birdcalls is with the free Merlin Bird ID app, produced by the Cornell Lab of Ornithology.







The Center of Things

IN 1972, AN ARTIST MOVED FROM NORTHERN CALIFORNIA TO MONTANA'S PARADISE VALLEY AND FOUND WHAT HE WAS LOOKING FOR.

BY RUSSELL CHATHAM

When I first saw the house at the head of Deep Creek it was in October, 25 years ago. The light of a warm Indian summer afternoon bathed the rooms in a friendly light, telling me there was promise here. A week earlier I had driven into Montana, passing through Yellowstone Park. It was around Labor Day, and it had been snowing hard, making me wonder if the fishing would still be good.

I had been told about a small creek nearby which only a few locals sometimes fished. It offered a change from the big Yellowstone, they said. The rancher didn't object to fishermen, and you could just drive in, park, and go fishing.

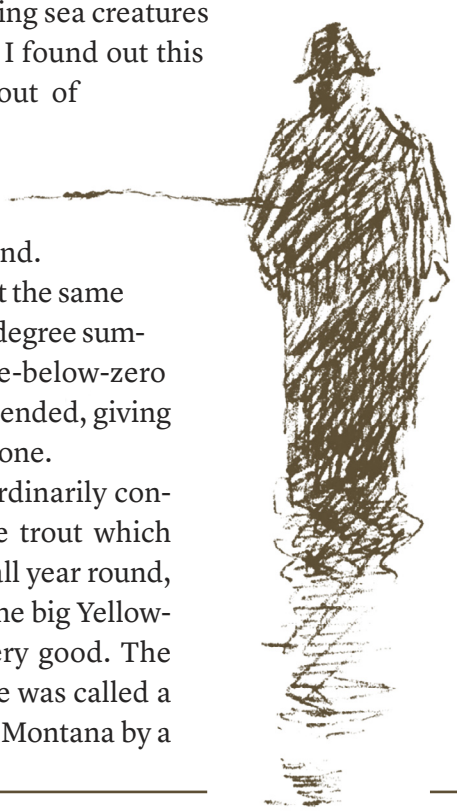
There on the creek I discovered a small world unto itself, a world unlike that I was used to, one seemingly as large as the cosmos, bearing sea creatures whose realm was half the globe. I found out this stream didn't form like most, out of trickles coming together high in the mountains. Rather, it sprang full blown right out of a fissure in the ground. Because of this, its water flowed at the same 55-degree temperature on a 100-degree summer day as it did on a 30-degree-below-zero winter day. And two miles later it ended, giving its life over to that of the Yellowstone.

This creek provided an extraordinarily congenial mini environment for the trout which lived in it. They fed contentedly all year round, growing fat and healthy. Out on the big Yellowstone nearby, the fishing was very good. The most famous fly in use at the time was called a Muddler Minnow, popularized in Montana by a man named Dan Bailey who had moved to Montana from the East back in the '30s to get out of the rat race.

The Muddler Minnow, made of deer hair and turkey feathers, was an inch or more long, and was designed to imitate the sculpin, which is one of the main items on the Yellowstone River trout's menu. As Dan himself explained it in the simplest terms, "You just throw it out, and then—*pop*, *pop*, *pop*—you bring it back in jerks."

It didn't take me long to learn that on the secret creek this would never work.

There, the stable water conditions created lush underwater growth which in turn supported vast insect life. These trout fed almost constantly, mostly on minutiae. A friend had shown me some of the flies you needed. They were tiny imitations of mayflies and other smaller bugs, some of them seemingly as little as the head of a pin.



When my wife, two-month-old daughter, and I moved from California to Montana the following spring of 1972, there was a lot of work to do. The house required cleaning, repairs and painting. And in addition to this, I set about converting one of the old log buildings into a painting studio.

At first, the unfamiliar Montana landscape defied my efforts. To paint the inner life of nature you must love it. Moreover, to study the landscape with an eye toward understanding it, you must spend a great deal of time out in it.

The creek lay only about a 15-minute drive from the house. I fished it every

Russell Chatham *was a renowned landscape painter as well as an accomplished writer and avid angler. He also ran a publishing company and owned a fine restaurant, both in Livingston. His fishing buddies included novelist Thomas McGuane, writer and poet Jim Harrison, and singer-songwriter Jimmy Buffett.*

Chatham died in 2019 in California at age 80. While going through his papers, his daughter, Lea Chatham McCann, found this unpublished essay about her father's early years in Montana. The following year it ran in Montana Quarterly. *Used here with permission of the Chatham family.*

few days in those first years, usually only for an hour or two. But that short drive put me in visual touch with all the elements of the Montana landscape.

First, I left the house at 5,500 feet, descending 1,000 feet along the wooded creek bottom. Then I passed for a time along a sloping bench on which were hayfields and pastures. Soon I was dropping down through scattered fir, pine, and junipers until entering the band of cottonwoods bordering the river. Crossing the river, then climbing slightly to the broad valley floor, as far as the eye could see, fields and stands of cottonwoods stretched into the distance. On both sides of the valley sharp peaks rose to 12,000 feet. And above all of it was the volatile, ever-changing sky.

Arriving at the creek, I entered yet another dimension, one of quiet intimacy.

The water gurgled softly over shallow riffles, but more often glided silently past watercress-lined banks. Cottonwoods grew here, but the ground was protected and quieted by dense stands of willow and wild roses, home to many cottontail rabbits which were always silently appearing and disappearing.

The fishing itself was slow and deliberate, but best of all, it was solitary. While I was kneeling by the creek, half in it, half out of it, the rest of the world ceased to exist. It was a salve that mended the soul's tears and abrasions.

As the years passed by, my familiarity with the creek itself grew, along with a more general appreciation of the landscape of the Northern Rockies. At some point in time, perhaps seven or eight years into it, I felt an easy familiarity with the creek, and my paintings were reflecting the spirit of their motifs with an increasing accuracy.

Some have argued that fishing is merely an escape from reality. My father used to tell me I had to get used to doing things I didn't like because that was the definition of work. I didn't believe it when he told it to me 35 years ago, and nothing since has caused me to change my mind.

The dark, silent water flowing past waving tendrils of moss, sometimes revealing the olive-colored forms of trout, is haunting. We reach out to it with our fishing rods, and by connecting ourselves to living things, we affirm that we ourselves are alive, not just in our clumsy bodies, but in our hearts and souls.

Just the other day, in the midst of a mild Montana winter, I walked up the hill behind the house at Deep Creek, following two sets of fresh lion tracks. From up there I could view most of the Paradise Valley as it lay under a light skiff of snow. I could see clear to Yellowstone Park 50 miles to the south, and over into the Gallatin Range.

Behind me rose the terrible ramparts of the Beartooths, the Absarokas, which I have promised myself to never again enter on foot or horseback. Before me lay the essential quadrant of my life at home.

The sun was falling behind a cloudbank to the west and here and there the river reflected the sky. Far off to the right in a heavy stand of trees, I knew the secret creek lived its quiet life, and that far from representing an escape, that it was the true center of things.

Editor's Note: In another essay, Chatham writes more about the Livingston area during the early 1970s: "My new home at the head of Deep Creek was less than 10 minutes from the Yellowstone River, about 5 from Nelson's Spring Creek, and 15 from Armstrong and DePuy spring creeks, waters that were completely deserted most of the year and very lightly fished during the season. In those days, there was only one tackle store, Dan Bailey's. There were two or three guides who hung around the store in the mornings, but mostly they waited in vain for an inept sport to show up with money to burn."

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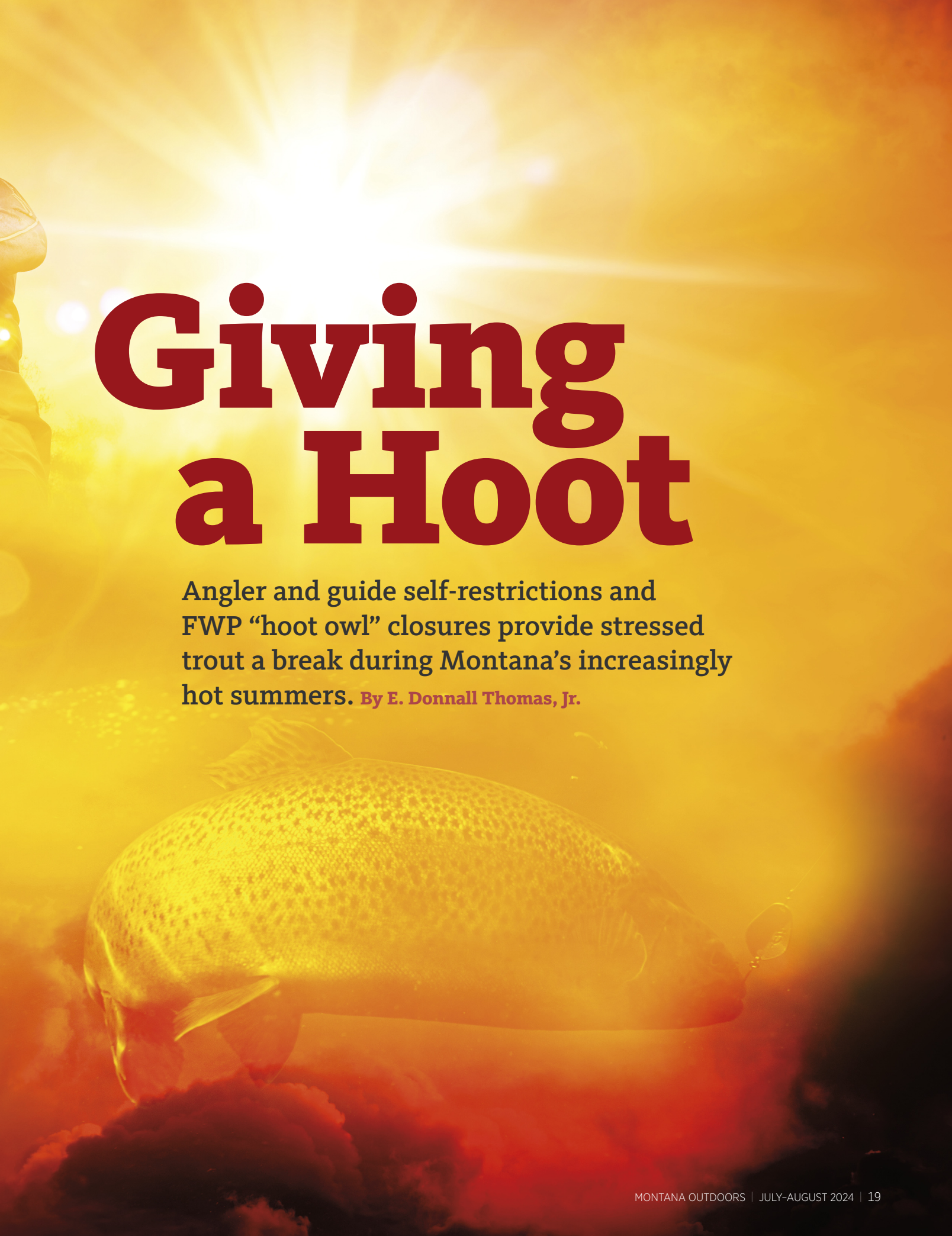
Giving a Hoot

Angler and guide self-restrictions and FWP "hoot owl" closures provide stressed trout a break during Montana's increasingly hot summers. By E. Donnall Thomas, Jr.



One day last August, my wife Lori and I decided to drive south from our Lewistown home to visit friends in Paradise Valley. Crossing the bridge over the Yellowstone River in Big Timber always serves as my demarcation between eastern and western Montana. As we briefly watched the low, clear current pass beneath us, we left the world of walleyes and catfish and entered the land of trout.

With the weather balmy and clear, fly anglers were out in force enjoying the day. As we drove west on the interstate parallel to the river, every glimpse of the water revealed drift boats and rafts following the current as fly lines shot back and forth. The Yellowstone is big enough so that it seldom looks crowded, but the water did seem busy in a pleasant way.

We stopped for gas in Livingston before turning south toward Yellowstone National Park. When we next made visual contact with the river, my impression registered something oddly amiss. Then I realized that all the drift boats and anglers had vanished, leaving the scene eerily depopulated, like a post-apocalyptic landscape in a disaster movie. When Lori made the same observation and asked me where all the boats had gone, I experienced a sudden insight and glanced at my watch. "It's after two. Hoot owl rules are now in place." On this stretch of river, no fishing would be allowed again until midnight.

It appears that Montana Fish, Wildlife & Parks will likely need to impose similar restrictions on many trout rivers again this summer. Snowpack in much of western Montana was low this past spring, and much of the state remains in extreme drought conditions. To help beleaguered trout even further, FWP is asking anglers to consider "giving a hoot" by voluntarily restricting their fishing even before official restrictions are set.

WHY "HOOT OWL"?

Though no one knows for certain, it seems that the term "hoot owl" to describe a time of morning activity dates to the early logging days in the Pacific Northwest. During late summer, the danger of wildfire caused by logging activity—hot truck mufflers igniting grasses and sparks flying from axes hitting metal, horseshoes on rocks, and rattling chains—increased in late afternoon due to hotter temperatures, stronger winds, and evaporation of morning dew. Consequently, logging crews rose early, worked during the safest time of day, and left the forest in the early afternoon. Several owl species, including the great horned and the barred, call frequently at sunrise, and their characteristic hooting at some point was used to describe the loggers' early work schedule.

In the early 2000s, FWP began applying the term to new restrictions on summer trout angling activity that allowed anglers to fish only from midnight to 2 p.m.—the coolest hours.

Fisheries managers have long known that trout can't survive in water that is too warm, thus the term coldwater fish. But they didn't consider temporary closures until the early 2000s, when growing angling pressure on Montana's trout fisheries combined with several consecutive years of drought to put extraordinary stress on fish. Though most anglers release their trout, a certain percentage of the fish die from the stress of being caught and handled. A 2008 Montana State University study showed that trout caught and released from water with a temperature above 68 degrees F were far more likely to perish than those taken from cooler water.

To reduce catch-and-release mortality when fish were most stressed, FWP restricted afternoon and evening fishing on streams

WADE WARNING When summer coldwater streams become warm enough to comfortably wet-wade, that may indicate that temperatures are or soon will become dangerously high for trout.

JEFF ERICKSON

Don Thomas, a writer in Lewistown, is a longtime contributor to Montana Outdoors.

and river stretches when certain environmental criteria exceed tolerable levels.

Senior fisheries officials note that restricting angling hours on streams and rivers is not a decision they take lightly. "It's a last resort, and only when it looks like trout on a river are really in trouble," says Bozeman-based FWP regional fisheries supervisor Mike Duncan, whose region covers the Big Hole, Beaverhead, Madison, and several other popular trout rivers.

HOW FWP DECIDES

The two most important criteria for applying hoot owl restrictions on a stretch of river are water temperatures of 73 degrees F or higher for three consecutive days, or stream flows running below the fifth percentile of the mean historic flow for that body of water. The criteria apply only to streams managed for salmonids (trout and char), which have far less tolerance for warm water than other Montana game fish such as bass and sauger.

Area fisheries biologists begin thinking about the possibility of stream closures in late winter as they monitor mountain snowpack. Scanty snow could reduce headwater streams to a trickle by midsummer. Biologists then track flows and water temperature from United States Geological Survey (USGS) monitoring stations throughout spring and summer, all the while watching short- and long-term temperature forecasts.

If a river section nears dangerously low levels or high water temperatures, an area biologist notifies senior managers in the regional office and Helena headquarters, who then alert the Fish and Wildlife commissioner whose region covers that water. In discussion with department staff, the commissioner makes the final recommendation to impose hoot owl restrictions. The FWP director signs the order.

WILDFIRE CONCERNS The name for angling "hoot owl" restrictions may trace its origins to the early days of logging in the Pacific Northwest. To prevent wildfires ignited by sparks that came from saws hitting rocks, chains on trucks, and horseshoes on boulders, loggers limited their activities to the cool, damp mornings. That's also when barred and great horned owls are most likely to call, inspiring the "hoot owl" term, which was later applied to restrictions on afternoon angling in midsummer on some rivers. Above: Loggers use a crosscut saw to cut logs from a tree in the Bitterroot Valley, date unknown. Left: A barred owl from *The Bird Book*, 1915.

Duncan says additional factors come into play when imposing or removing a closure. "For instance, after we set a hoot owl restriction, we don't want to lift it if weather forecasts suggest that cooler water temperatures will be short-lived and will then exceed our temperature criteria a few days later, " he says. "We want to be consistent and not make things confusing for anglers and guides."

Duncan notes that a few rivers, like the Big Hole, have drought management plans that stipulate flows that trigger closures. FWP's new Statewide Fisheries Management Plan also highlights specific reaches of rivers that are likely to see high water temperatures and low flows in the coming years, which could serve as a useful guide for visiting anglers (see Editor's Note on page 23).

WIDESPREAD ACCEPTANCE

Summer hour restrictions are widely supported by anglers. "Our organization and members have advocated science-based, consistent hoot owl triggers for many years," says David Brooks, executive director of Montana Trout Unlimited. "During a summer of low water levels and high water temperatures, we need to sacrifice some fishing opportunities for the long-term health of our fisheries."

It's also easier for anglers and guides to swallow since late afternoon is often the worst time to catch trout in midsummer as well as when most kayakers and innertubers are out floating (and inadvertently spooking rising trout). Many guides start their clients off earlier in the day, fishing the

FROM TOP: UNIVERSITY OF MONTANA MANSFIELD LIBRARY; PUBLIC DOMAIN

MONITORING CONDITIONS FWP crews regularly check trout stream water temperatures, flows, and dissolved oxygen levels to see if they are approaching or at levels that are dangerous for trout. The specific criteria for the department to impose angling restrictions are water temperatures reaching 73 degrees F or higher for three consecutive days, or stream flows running below the fifth percentile of the mean historic flow for that stretch of river. Says one senior agency official: "We don't take hoot owl restrictions lightly. We recommend them only when we feel we have no other choice."

SELF-IMPOSED RESTRICTIONS Anglers who "give a hoot" about trout can voluntarily choose to take themselves out of the angling picture in mid- to late summer when water temperatures warm, imposing their own hoot owl restrictions before FWP needs to.

cool mornings when the fishing is often more productive.

While individual anglers may have to give up some time on the water, guides and outfitters can actually lose income from the closures. Yet the majority support hoot owl restrictions, says Brant Oswald, senior advisor to Fishing Outfitters of Montana (FOAM). "Most guides and outfitters voluntarily initiate their own restrictions, fishing early and ending early whenever water temperature and flow become an issue," he says. "We try to be proactive and change our behavior before regulations require it, for the good of the fishery."

Oswald adds that some clients complain of getting short-changed on the length of their angling day. "That's when having the official FWP restrictions in place helps us resolve those conflicts," he says.

While most hoot owl restrictions apply mainly to fisheries containing non-native brown and rainbow trout, the state's native bull trout fisheries have even lower restriction thresholds due to the species' even lower tolerance for warm water. Fisheries managers have begun discussing adapting more conservative hoot owl closure criteria for fisheries containing Montana's state fish—native westslope cutthroat and Yellowstone cutthroat trout, which also have especially low tolerance for warm water.

Duncan notes that one way FWP and trout conservation groups help keep native salmonid fisheries and blue-ribbon rivers as cool as possible is by working with landowners to lease water in spawning tributaries. "That not only helps maintain water in those streams for trout survival, but it also keeps more cool mountain water flowing into mainstem rivers in late summer," he says. (See "A Little Goes a Long Way," *Montana Outdoors*, July-August 2019.)

Other ways FWP helps trout are by protecting and restoring streamside vegetation that shades water, and removing obstructions so fish can swim up- and downstream to find spring-fed pools and other coldwater refuges.

Duncan adds that people wanting to help trout don't need to wait until FWP imposes restrictions. "Anglers can follow the lead of many guides and outfitters by voluntarily not fishing during the afternoon and giving trout a rest from being caught," he says. "If the long-term forecasts hold, conditions for trout will continue to be tough every summer, so it's important that trout anglers 'give a hoot' and do all they can to protect this invaluable resource by fishing responsibly and ethically."

Editor's Note: Before heading out to fish, visit the FWP website to check for current restrictions. For drought information, visit: https://fwp.mt.gov/conservation/fisheries-management/water-management/drought. To read about drought affecting specific rivers as outlined in the FWP Statewide Fisheries Management Plan, visit https://fwp.mt.gov/conservation/fisheriesmanagement/statewide-fisheries-management and scroll down to the drainages you're interested in.

How to help heat-stressed trout

Anglers don't need to wait until FWP imposes hoot owl restrictions. Ethical angling actions that reduce stress on coldwater species include:

Fishing only during the morning when water temperatures are lowest.

★

Bringing hooked trout to the net as quickly as possible to reduce lactic acid buildup.

★

Keeping trout in the water when removing the hook.

★

If you must take a photo of a trout out of water, doing it as quickly as possible.

★

Considering mountain lake or stream fishing during late summer.

★

Wetting your hands before handling trout to protect their mucous skin coating.

CLOCKWISE FROM TOP LEFT: THOM BRIDGE; SHUTTERSTOCK; JEREMIE HOLLMAN; ERIC ENGBRETSON

12 Little Brown Grassland Birds Every Montanan Should (Kinda) Know

The "good enough" guide to identifying prairie songbirds

BY SNEED B. COLLARD III

Heather Harris turned her truck up a two-track that led to a line of low hills. Thanks to recent rains, lush grass surrounded us, and the birds seemed to be celebrating the first season of vegetative abundance in several years. Loud, sweet calls of meadowlarks blasted through our open windows. Vesper sparrows and chestnut-collared longspurs flitted along a fence line. Overhead, the bold black-and-white wings of a Swainson's hawk rode the early morning thermals rising off the prairie.

None of these were our primary target, however. That honor belonged to a small, elusive bird that few people get a chance to see.

Atop the hills, Harris parked the truck, turned off the engine, and climbed out. Then the Montana Fish, Wildlife & Parks wildlife biologist stopped and said, "I hear one."

Even with my hearing aids in, I knew I wouldn't be able to pick up what Harris was listening to. But thanks to previous encounters, I knew what to look for.

"It'll be a little black dot in the sky," I told my buddy Scott, who had flown up from California to join me and Harris on this grasslands expedition.

"I hear a second one!" Harris exclaimed. We all stared up at the summer sky. But none of us could detect movement until, finally, Harris and I simultaneously shouted, "There's one!"

I helped Scott find it, pointing out the

A western meadowlark (aka "flying potato") takes flight off a sagebrush in Park County.
PHOTO BY BECCA WOOD

small speck about 500 feet overhead.

"That's it?" Scott asked in astonishment.

"That's it," Harris replied. "Sprague's pipit."

PRAIRIE BIRD STRONGHOLD

Wildlife biologists consider Sprague's pipit one of America's most iconic prairie birds. A sparrow-like bird with short, stubby wings, Sprague's pipit is famous for performing long courtship displays. The males hover, singing, high in the sky for 30 minutes or more before plunging like a dropped lead weight toward earth.

Unfortunately, the species also has gained notice for its plunging population. Due to farmers converting grasslands to agriculture, trees encroaching on open areas from lack of historic prairie wildfires, and other habitat losses, grassland species are the most endangered group of birds in North America. According to the *2022 The State of the Birds* report published by a consortium of private and government conservation organizations, grassland birds have collectively suffered a massive 34 percent population decline since 1970.

The good news? With millions of acres of prairie still untouched by the plow, Montana serves as a stronghold for many of these birds—including Sprague's pipit.

"We are so lucky in Montana to have what we have," Harris says. "And that's because we have quality mixed-grass prairie habitat,

a lot of which is privately owned, and the landowners have taken care of it. Ranchers with good management practices do good things for grassland birds. So if we can keep our ranchers going, we can keep grasslands in grass and not see them converted to row crops or housing developments."

As FWP's grassland and wetland coordinator based in Glasgow, Harris works with ranchers, biologists, and other partners to conserve grassland habitats. Before taking her current position, she worked as FWP's northeastern region nongame biologist. During that time she developed a strong appreciation for the state's grassland birds—especially the "little brown birds," or LBBs, that so many people overlook.

BLACK DOT IN THE PRAIRIE SKY FWP wildlife biologist Heather Harris and the author watch a Sprague's pipit far overhead. Rarely seen on the ground, the species is best identified by its call.

APPRECIATING THE LBBS

Despite the fact that Montana provides vital breeding grounds for dozens of grassland bird species, few Montanans recognize or appreciate these prairie songsters. Most grassland birds live far from human population centers, making it difficult for people other than ranchers and farmers to hear or see them. These birds also stay hidden whenever possible to avoid hawks and other predators. Even when a person sees one, many grassland birds look frustratingly similar to each other, causing even experienced birders to pull out their hair in frustration.

When I first began birding a decade ago, I despaired at ever being able to identify even a few grassland species. They all looked the same to me, and they were so danged small. But after years of effort, and inspired by the patient enthusiasm of my teenaged son (himself a budding birder), I slowly began to appreciate and pick out the details of these fascinating creatures. I also learned of their enormous ecological value.

"Grassland birds eat insects, providing pest control" Harris says. "They also disperse seeds and provide prey for predators. And they are indicators of grassland ecological health. When species like Sprague's pipit start disappearing, you know a prairie is in trouble."

Up close, many prairie birds are surprisingly beautiful to see and hear. "I love the songs, and I love when you can hear them in the prairie as it comes alive in the spring," Harris says, explaining that most birdsong is by males defending territory or wooing mates. "People come from all over the world to see and hear these species—and we Montanans have them right here in our own backyard!"

SLOW DOWN AND PAY ATTENTION

As with any group of birds, a good place to start is with what you already know. One species almost everyone recognizes is the western meadowlark. Famous for their stunning yellow breast and black "necktie," meadowlarks make themselves highly visible on fence posts or power lines, where they perch with a distinctive "hunched over" posture. Harris calls them "flying potatoes" for

Sneed B. Collard III's newest book is Birding for Boomers—And Everyone Else Brave Enough to Embrace the World's Most Rewarding and Frustrating Activity.

Vesper sparrow with grasshopper at Warm Springs Wildlife Management Area near Anaconda.

FROM TOP: SNEED COLLARD; STEVE PARKER

their bulky bodies and the less-than-elegant way they power through the air. My favorite thing about meadowlarks is the loud musical songs they belt out over the prairie.

Other prairie birds generally take more study to identify, but don't be intimidated. "It mainly comes down to taking the time to slow down and pay attention to what's around you," Harris says. "If you think you hear something, stop and listen. If it sounds like a bird, move closer to the sound to see if it's perched on vegetation or a fence post or wire. Use your binoculars and bird book and look for identifying traits."

To help you out, the following pages contain a "good enough" guide to 12 grassland LBBs. "Good enough," because even the experts misidentify these notoriously similar-looking species, so don't be surprised if you have to make a best guess occasionally.

Grassland bird basics

SHAPE
Grassland birds often have stocky bodies with broad wings, and a rounded head and tail.

CAMOUFLAGE
Stripes, spots, and patterns help these small birds blend in with their surroundings.

SIZE
Grassland birds are relatively small: 5 to 7 inches long, and weighing 1 to 2 ounces.

COLOR
Most are brown, tan, and white, often with a light-colored underbelly.

NESTING
Many are ground nesters, building small, well-hidden nests.

Chestnut-collared longspur in flight

Grasshopper sparrow nest

CLOCKWISE FROM TOP RIGHT: LISA WRIGHT; BOB MARTINKA; MIKE ALLEN; JOHN CARLSON; SHUTTERSTOCK

Lark sparrow

Best places to find grassland LBBs

You don't need to do as I did and drive practically to North Dakota to see grassland birds. Yes, Bowdoin and Medicine Lake national wildlife refuges are hot spots, as is American Prairie's nature reserve south of Malta. But centrally located Freezout Lake Wildlife Management Area and Benton Lake National Wildlife Refuge near Great Falls also are great places to spot LBBs. In fact, most species can be found across the state.

"The key is to find good grassland habitat," says Heather Harris, FWP grassland and wetland coordinator. "I locate them a lot easier by sound than I ever would by looking for them. Then, once you hear one, you can try to focus in and get it in your binoculars."

Driving rural roads can offer up any number of surprises—but drive safely. Ranchers and other local residents use these roads to get around, so constantly check your mirrors. If you're driving slowly, put on the hazard lights, and if you stop, pull well over to the side.

Sprague's pipit

GATEWAY SPECIES (Some easier ones to get you started)

WESTERN MEADOWLARK

Largest grassland LBB, with a brown back, an often brilliant yellow breast, and a black "necktie."

▶ **Key ID tips: Loudest and one of the prettiest grassland songs; white outer tail feathers that clearly show in flight.**

Body length: 9.5 inches.

Song: Several clear notes followed by gurgling warble.

Habitat: Grassland, sagebrush, and pastures with intermediate-height vegetation.

Worth knowing: Though a breeding-season species in Montana, western meadowlarks are found year-round from Iowa to the West Coast. They winter as far south as central Mexico.

Best places to see them: Mostly east of the Continental Divide, but also in western fields, farms, and ranches.

Montana conservation status: Common and secure.

HORNED LARK

Intermediate in size, between a meadowlark and a sparrow. Smooth, light brown and gray back with striking black, white, and yellow facial markings. Male raises two feather "horns" on his head during mating displays.

▶ **Key ID tips: Those "horns." Also, these birds often congregate along roads and have a bad habit of flying out in front of passing cars.**

Body length: 7.25 inches.

Song: Sweet sequence of higher, stuttering notes transitioning to a jumbled finale.

Habitat: Shorter grassland, open sagebrush habitat, and cropland stubble.

Worth knowing: Horned larks are the only lark species native to North America. They also are native to Asia and Europe. Present in Montana year-round.

Best places to see them: Almost any non-mountainous rural area with good habitat.

Montana conservation status: May be declining, but of lower concern than species with documented precipitous declines.

BOBOLINK

Male has a dramatic black plumage with white wing and lower back patches, and unique cream-colored nape of neck. Females and non-breeding males are overall brown and "sparrow-ish" in color with dark head stripes and a dark stripe behind eye.

▶ **Key ID tips: Males are nicknamed "skunk birds." Look for a black bird with white wing markings and a pale back of the head.**

Body length: 7 inches.

Song: Extended burbling "blackbird" song mixed with sharp, squeaky notes.

Habitat: Primarily unmown damp meadows with medium to tall grass.

Worth knowing: Though resembling sparrows, bobolinks are in the blackbird family. They undergo one of the longest migrations of any songbird, traveling to and from central South America each year.

Best places to see them: Moist, unmown hay meadows and pastures throughout the state.

Montana conservation status: Species of concern due to habitat fragmentation and destruction of nests by early season mowing.

CLOCKWISE FROM TOP LEFT: JOSHUA RUTLEDGE; DONALD M. JONES; DANNY J. BROWN; CRAIG BARFOOT; SHARON DEWART-HANSEN; DOUG MCSPADDEN

MAIN GRASSLAND SPARROWS (Four worth knowing)

VESPER SPARROW

One of the larger sparrows with a chunky body and short beak. Brown and streaky colored. A thin white eye ring and white "handle-bar moustache" curving down and back from the bill.

▶ **Key ID tips: In flight shows white outer tail feathers. Up close, look for the distinctive white eye ring and, in breeding, a rufous shoulder patch.**

Body length: 6.25 inches.

Song: Slow introductory pairs of notes similar to a meadowlark's, followed by varied combination of trills.

Habitat: Shortgrass prairie and dry, scrabbly lands with some brushy cover.

Worth knowing: Unlike many other grassland birds, males often sing in the evening.

Best places to see them: Almost any dry, open places in the state.

Montana conservation status: Lower concern, though populations are slightly declining, likely due to conversion of grasslands to farmland, housing, and other development.

SAVANNAH SPARROW

Brownish with streaky breast and flanks. Easily mistaken for vesper sparrow, but smaller and with a weaker eye ring. Often has a dark spot on breast.

▶ **Key ID tips: Look for faint yellow above the eye and between the eye and bill. Distinct harsh buzzy trill.**

Body length: 5.5 inches.

Song: Quick distinct notes, followed by higher, and sometimes lower, buzzy trills.

Habitat: Open grasslands and fields, usually moister than what a vesper sparrow likes. Avoids forests.

Worth knowing: Often the most common sparrow in grasslands and farmed lands.

Best places to see them: Almost any roadside bordering moist grasslands, fields, or pastures.

Montana conservation status: Stable populations here, but declining in many other states.

LARK SPARROW

Rich chestnut, black, and white facial pattern makes this one of our most beautiful sparrows. Brown back and clean white breast with dark spot in center.

▶ **Key ID tips: Boldest facial pattern of common sparrows, with contrast between light and dark areas creating a "harlequin" effect. In flight shows distinctive white tail feather tips that give the impression of a circular white arc.**

Body length: 6.5 inches.

Song: Jumble of clear notes and trills with occasional churrs reminiscent of police car "phaser" traffic-clearing siren.

Habitat: Variety of mixed open habitats including grasslands, usually with nearby shrubs or trees. Mostly absent from pure prairie areas.

Worth knowing: In courtship, males strut "turkey-like," holding their long tails upright and showing their white tail spots.

Best places to see them: Along roadsides in open country throughout the state.

Montana conservation status: Stable, but at risk from the loss of sagebrush habitat and nest parasitism by brown-headed cowbirds.

CLOCKWISE FROM TOP LEFT: SHARON DEWART-HANSEN; BOB MARTINKA; SHARON DEWART-HANSEN; SHAWN T. STEWART; TRISH HUDDLESTON; STEVEN AKRE

MAIN GRASSLAND SPARROWS

GRASSHOPPER SPARROW

Small, "hunched-over" sparrow with flat head, thick bill, white eye ring, and no streaks on plain buff breast. Yellow or buffy wash on face.

▶ **Key ID tips: During breeding, sits prominently on shrubs or fence wires and throws head back dramatically while singing.**

Body length: 5 inches.

Song: High, faint, insect-like trill or buzz, preceded by two or three quick notes.

Habitat: Generally short or moderate grasslands with patches of bare ground, and occasionally shrubs for mating songs.

Worth knowing: A well-named bird with its grasshopper-like song and fondness for grasshopper prey.

Best places to see them: Rural areas with healthy grasslands throughout the state.

Montana conservation status: Stable in Montana, but a conservation priority in many places because of population declines resulting from habitat loss and early season mowing that destroys nests.

IDENTIFICATION CHALLENGE

CLAY-COLORED SPARROW

This is one of the most difficult to ID. Fairly nondescript with clean, buffy breast. In breeding, crisp white stripe above the eye and white "moustache" coming down from tiny bill.

▶ **Key ID tips: Rule out everything else. Then, if it is in shrubs and has a rather bright, slightly orange-ish face with a pale gray collar, it could be a clay-colored.**

Body length: 5.5 inches.

Song: Flat, often repeating buzzy trills, each lasting about 0.5 to 1 second.

Habitat: Open areas with both grass and light brush; lives in shrubbier habitat west of the Divide.

Worth knowing: Closely related to Brewer's and chipping sparrows and can look very similar. The Brewer's is duller gray and favors sagebrush, while chipping sparrows prefer open woodlands and, in breeding, have brighter rufous stripes on crown.

Best places to see them: Almost anywhere with both grass and shrub or bush cover.

Montana conservation status: Stable but possibly declining due to habitat conversion to agriculture and encroachment by trees.

OF SPECIAL CONCERN

SPRAGUE'S PIPIT

Slightly larger than most sparrows, with longer bill and fine streaking on upper breast. Broad, "stubby" wings in flight.

▶ **Key ID tips: Rarely seen on ground. Listen for descending, looping call up to 1,000 feet above the prairie. This "black dot" can stay airborne for 30 minutes to hours at a time before dramatically diving toward earth.**

Body length: 6.5 inches.

Song: Fast triplet followed by up to 10 or more distinctive descending "glissando" pairs of notes, sounding as if they are running out of steam.

Habitat: Large tracts of healthy, shorter native prairie with few shrubs, including moderately grazed areas.

Worth knowing: Since 1966, Sprague's pipit has lost about 80 percent of its overall population nationwide due to habitat loss and fragmentation, replacement of native prairie by invasive grasses, and overgrazing. Many winter in Texas and Mexico, where grasslands have also suffered severe losses.

Best places to see them: Large, continuous tracts of medium-height, native prairie in eastern Montana.

Montana conservation status: Stable here, but a species of concern due to steep population declines in neighboring states and provinces.

CLOCKWISE FROM TOP LEFT: DAVID STIMAC; CRAIG BARFOOT; JOHN CARLSON; JOHN CARLSON; SHARON DEWART-HANSEN; DAN ELLISON

(four species to especially worry about)

LARK BUNTING

One of the easiest to ID. In breeding, male is mostly black with prominent white wing patches. Non-breeding males and females are brown with heavily streaked breast and white wing patches. All have a large, bluish-gray bill.

▶ **Key ID tips: Montana's only all-black prairie bird with obvious white wing patches. Usually lives in small colonies.**

Body length: 7 inches.

Song: Combination of same-note sequences, harsh, chirpy, high, and trill-like.

Habitat: Wide variety of open grasslands, brushlands, and fields. Shrubs generally required for breeding.

Worth knowing: One of the few sparrows in which the male undergoes a complete molt to a radically different breeding plumage.

Best places to see them: Eastern Montana with habitats listed above, though presence can vary dramatically from year to year.

Montana conservation status: Needs monitoring because of apparent population declines and documented loss of grasslands.

BAIRD'S SPARROW

Flat head and thick bill. Resembles the grasshopper sparrow, but with whiter breast and collar and fine, short streaks across breast.

▶ **Key ID tips: Stays hidden most of the time, so key in on distinctive song.**

Body length: 5.5 inches.

Song: Stuttering, tinkly sequence of notes followed by lower, often "bending" trill.

Habitat: Healthy prairie with taller grass and a few scattered shrubs for perching.

Worth knowing: This was the last bird to be described by John James Audubon, and its type specimens were collected in Montana.

Best places to see them: Large tracts of healthy grasslands such as at Bowdoin and Medicine Lake NWRs.

Montana conservation status: Stable, but of high concern due to rapid population losses in North Dakota and other parts of its range.

CHESTNUT-COLLARED LONGSPUR

Breeding males have stunning rich reddish neck nape, bold black-and-white head stripes, yellow or orange face and throat, and distinct black breast. Females and non-breeding males are brownish and much duller.

▶ **Key ID tips: Chestnut neck nape. Black breast of male. In flight, mostly white tail feathers with black central feathers.**

Body length: 6 inches.

Song: Sweet and gurgling, up and down with accented notes.

Habitat: Disturbed native grasslands with scattered shrubs, including areas recently hayed, burned, or grazed.

Worth knowing: In breeding, male performs undulating aerial displays while singing to defend territory. The similar-looking thick-billed longspur lives in drier, rougher habitat.

Best places to see them: Refuges and grazed sites with shorter, often slightly wetter grasslands.

Montana conservation status: Priority concern. Populations declined on average 3.3 percent per year in Montana from 1966 to 2010, and even more in other states. Still abundant in healthy habitat.

CLOCKWISE FROM TOP LEFT: SHARON DEWART-HANSEN; BOB MARTINKA; JOHN CARLSON; DAN ELLISON; DONALD M. JONES; ERIN BRAATEN

Yeah, Jimmy!

A stray joins a fishing fraternity on the Blackfoot River.

By John MacDonald

I cannot cast a fly on the water anymore without thinking of Jimmy James. The handsome mutt from the Humane Society was my companion on nearly every fly-fishing trip for eight years, standing at my side in shallow water, hoping like Norman Maclean for a fish to rise.

Jimmy James's whole head would follow the fly through the air on each cast, and his brow would furrow as he watched it settle on the water. If the first dozen casts produced no strikes, I'd start to hear a soft whimper. If further efforts generated similar results, the whimper would grow to a whine and, finally, a loud and frustrated yelp.

"Come *on*," I imagined him chastising me, "You have to mend that, man!—*mend* it!"

When a fish did take my fly, Jimmy James often saw it first, and his whole body would flinch with what I always took to be the same joy I felt at that moment. It became a habit for me to loudly exclaim, "Yeah, Jimmy!" instead of the usual "Fish on!"

All he wanted once a fish was netted was to admire it briefly, watch it swim back into the current, and maybe smell the net.

I taught him none of this. I don't know if someone else did, or if it was innate. He was a two-year-old stray, found wandering by the hospital in Helena and taken to the animal shelter. He was healthy, gentle, and sweet, and wearing no collar. I loved him before I ever knew he could fish.

The shelter had named him "James," which seemed too formal for what I took to be a country-boy kind of dog, one who should have two names like Billy Bob or Bobby Jo. His short, gold-colored coat had the glint of a nice hardwood floor. His ears seemed just slightly too small for his head.

A good friend and I took him on a day trip with us shortly after the adoption, mostly because I didn't want to leave him alone for hours. We parked near a favorite stream, and the moment we pulled out our rod cases, Jimmy James became excited. He became even more so as we assembled our rods. Frankly, I was nervous. Would he be a pest? Jump in the water? Grab the fish? Get a fly hooked in his leg? My friend and I began walking upstream toward a familiar hole. Jimmy James trotted ahead, scanned the water, and then stood right beside the hole, waiting.

We made eye contact. "Here," he seemed to say. "This water looks promising."

From that day, Jimmy James became my constant fishing buddy. He also became one of the guys on our annual four-day fishing trip to the Blackfoot River. My brother, who maintained that fishing and dogs were incompatible, was quickly convinced otherwise.

"It's uncanny," he said on one of our early trips with Jimmy James. "I've never seen a dog concentrate so hard on anything."

I felt robbed when Jimmy James died. He was only ten. He was in distress one early spring morning, and a quick trip to the vet showed that his lungs were filled with blood from dozens of ruptured tumors. I had to do what so many dog parents have to do. Hate to do. As the drugs took his discomfort away, I held him and whispered in his ear: "We're going fishing, buddy." He looked happy. I've never been so sad.

I think of him every day. I still fish with him, too. My fishing buddies helped me scatter most of his ashes in our favorite hole along the Blackfoot; a few are in a sealed fly box in my fishing pack and go with me every trip.

When I catch a fish these days, a decade now since his death, I'll unconsciously mouth, "Yeah, Jimmy!" It brings me joy and a twinge of sadness.

Comforting me the day we spread Jimmy James's ashes, one of my buddies toasted him with a flask of bourbon.

"No one wanted you to catch a fish more than Jimmy James," he said. "Not even you."

PHOTO ILLUSTRATION BY LUKE DURAN/MONTANA OUTDOORS

Former Associated Press reporter and editor John MacDonald owns a public relations firm in Helena.

Drawn to Nature
WHICH BIRD WILL THE STUDENTS CHOOSE TO FOCUS ON?
• can ID to indiv. from audio recording
• know that they recognize strangers vs. neighbors
• moonwalk!
STUDENT
troubleshoot
HOPE AT LINDO 1/1/2025

Sketching can enrich your outdoor experiences, even if you're not artistically inclined.

By Bethann Garramon Merkle

There are many reasons to sketch what you see around you in Montana's outdoors, even if you don't consider yourself an "artist." I'll start with my own reasons.

I grew up in Choteau, but I didn't know much about the wonders of the Rocky Mountain Front ecosystem until I left the area. I went to college in Missoula and felt disoriented by the steep valleys and often dreary skies. The size of the city (30 times that of Choteau) overwhelmed me. As often as possible, I returned east to the open vistas of the Front.

Then I got lucky. I signed up for a one-year program on conservation and land-based livelihoods.

I didn't grow up camping or hiking, but the program introduced me to backpacking and showed me how to pull together my long-standing interests in science and art. Every student was required to keep a field journal to document what we learned. Ever since I was a young girl, I'd liked to draw. The integration of art and ecology hooked me.

The practice of drawing and note-taking showed me how to feel at home west of the mountains. I especially loved a weekly assignment to sit in the same exact place and notice how things changed throughout the seasons. During that year, I spent a lot of my time sketching birds and plants, and through that process those species changed for me from novelties into familiar characters. In this way, natural history-through-art also became a powerful lens for me to explore, understand, and reconnect to the Rocky Mountain Front region where I'd grown up.

I wanted to share this tool with everyone. Along with other side jobs, I worked my way through college as an illustrator and artist-in-residence for a water science nonprofit. When I graduated, I went back to the Front to teach conservation and natural history to kids who were just like me when I was growing up. I used art to teach students the names of our local mountains, the parts of birds, and other aspects of their surrounding natural world.

As a student and then a teacher, I frequently encountered peers, parents, teachers, and children who were leery of the outdoors or art or both. Over time, I came to understand the root of their hesitancy.

Without instruction, drawing and exploring nature can feel daunting. More than anything, beginners don't know where to begin. I've spent almost 20 years working to bridge this gap. I teach people how to start sketching the natural world, and by doing so they become more knowledgeable and comfortable in the outdoors.

INEXPENSIVE HOBBY

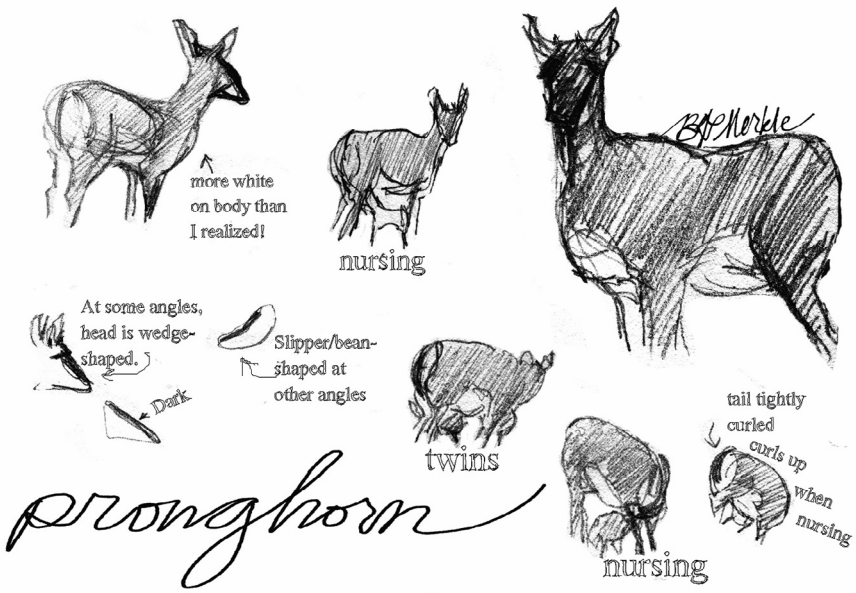
Sketching costs almost nothing in materials. It requires only something to draw on and with. While you can spend plenty on various fancy art supplies, a pen and scrap paper are all you actually need. And any natural thing you observe can be your subject matter, including a houseplant, a bird in the backyard, or an elk in a high meadow.

There are many reasons to try field sketching for yourself or to encourage others (including students) to join you. Sketching can help us document, learn, and share what we experience outdoors. It enhances our ability to focus, a rare and vital skill in a time when our attention is fragmented by texts, social media, emails, and the troubles of the modern world. In addition, reflecting on what we see through sketching and writing helps us process new and complex information.

For instance, you may see a tree as just a tree. But when you look closely and repeatedly sketch it, you begin to notice things that previously escaped your eye—bark texture, moss growing on certain areas, misshapen leaves, branch patterns, subtle variations in color, and more. Do this with multiple tree species and you'll start to recognize them easily. You may even find yourself referencing your past drawings rather than a plant ID book.

As a hunter and angler, I find that sketch-

Sketching is like practicing the piano or fly casting. It's something you work on and build upon as you improve with each attempt.



Hunters and anglers can take a break from pursuing their prey and stop to sketch their gear or surrounding vegetation. Like hunting, fishing, and wildlife watching, sketching is a way to pay close attention to where you are and appreciate it more fully.

ing helps connect me to the wildlife and fish I pursue and eat. You can sketch the animals you harvest, the hunting, fishing, and camping gear you use, and your surroundings. In particular, I've found that sketching animal tracks has helped me recognize the wildlife species making them whenever I'm afield.

STEP BY STEP

All this might sound nice, but you might still find drawing intimidating. Here are the seven steps I recommend to help people feel comfortable learning to draw:

1. Keep in mind that drawing is a skill, not a talent.

The drawings you may admire are usually done by people trained to draw. For instance, the trick of making a road or river appear to recede off into the distance, known as one-point perspective, was developed by mathematicians and artists over hundreds of years. Using shading to create three dimensions is another technique that is easily taught. You can learn the basics in a few hours, and then steadily improve each time you practice.

2. Let yourself practicee.

Drawing isn't magic. It's unlikely you'll be instantly good at it. Focus on drawing as a tool for noticing and learning, rather than on the technical "rightness" of each sketch. Think of it like practicing the piano: You don't pry off the keys you misplay and toss them away. Likewise, don't erase, cross out, or throw sketches away. Instead, build on and learn from them.

3. Sketch a lot, in ink.

If you push yourself to draw the bird you're watching in ink (no erasing) at least 10 times in a minute (or before it flies away), you'll have no time to fuss over how perfect each rendering is. Also, this "gesture sketching" often captures the energy and postures of that bird in a more lively way than if you labored for an hour over a detailed drawing. Put another way, the more you sketch, the less precious each individual sketch may become. And more sketching leads to more coordination between your mind, your eye, and your hands, over time making you more skilled.

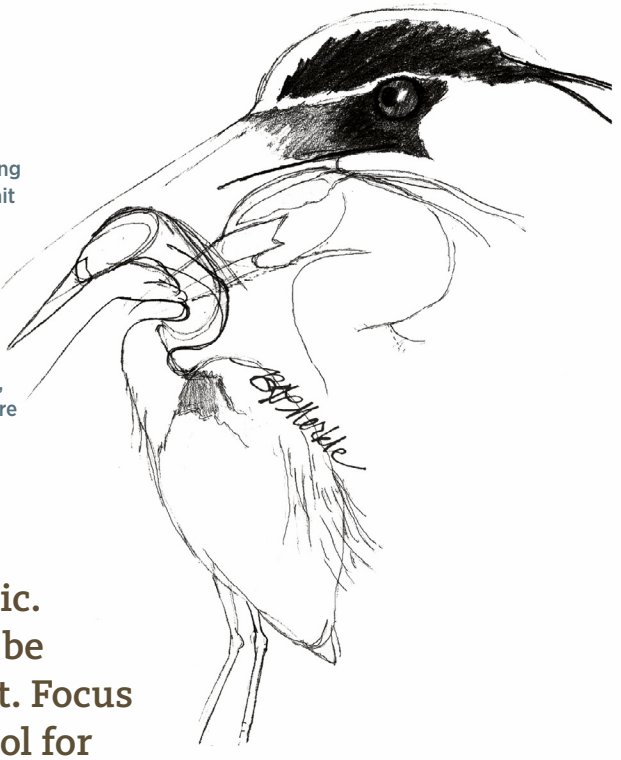
After spending time sketching something, you might want to add a bit of color. Keeping color simple can help your sketch look "on purpose"—a great incentive for drawing again tomorrow.

4. Shift the goalposts.

It can be hard not to care how your sketch turns out. I recommend an exercise that makes it impossible to control the outcome. If that sounds counterproductive, it is; that's the point. It frees beginners from having to "produce" something frameworthy and allows them to just experiment with no fear of failure. This is the first exercise in every workshop I lead, and it usually does the most to put people at ease.

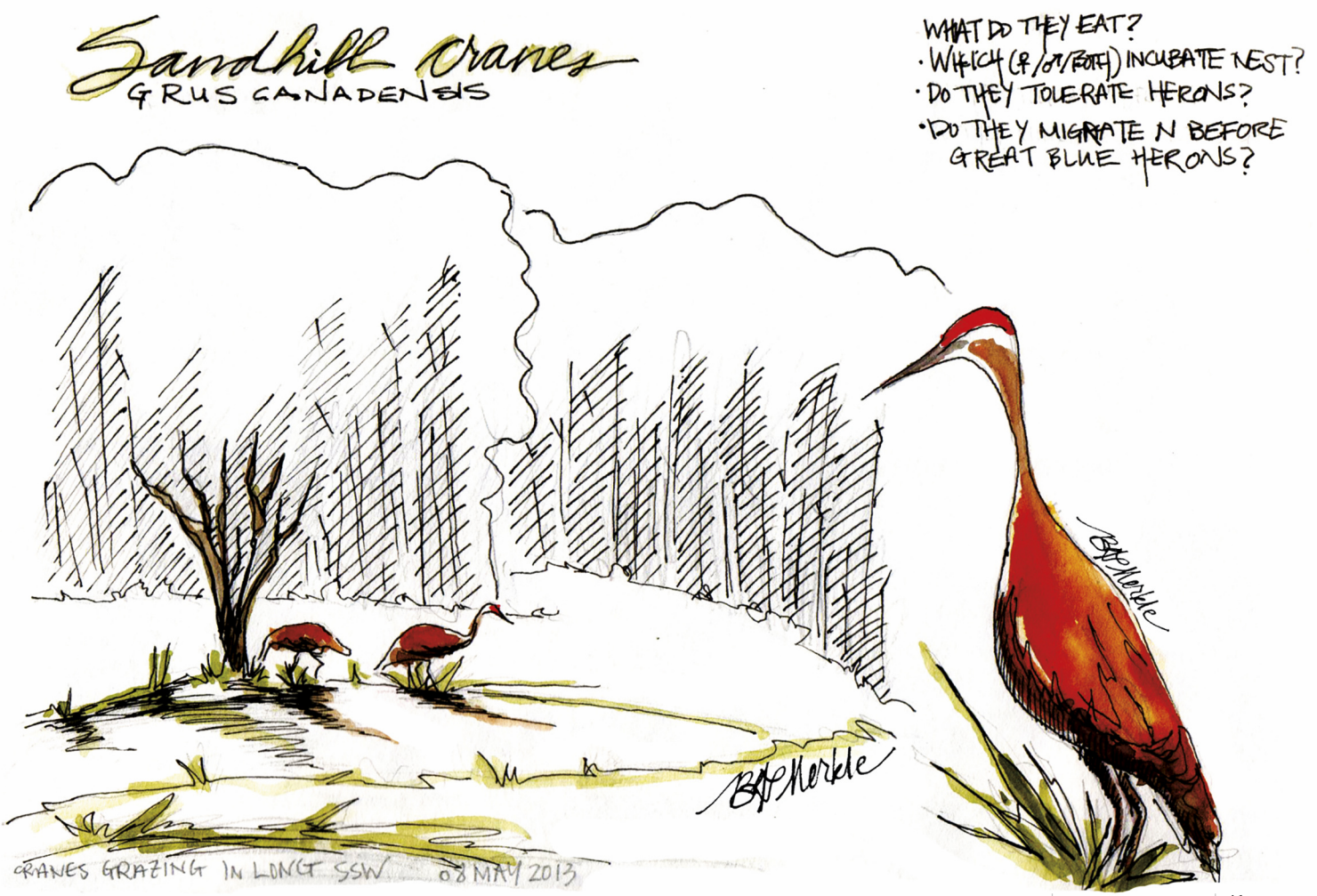
Here's how it works: Put a small object like a feather, bone, or leaf close to you on a table. Put your drawing paper on your lap under the table. Keep your pen on the surface of the paper at all times and try not to lift your hand or you'll lose your place.

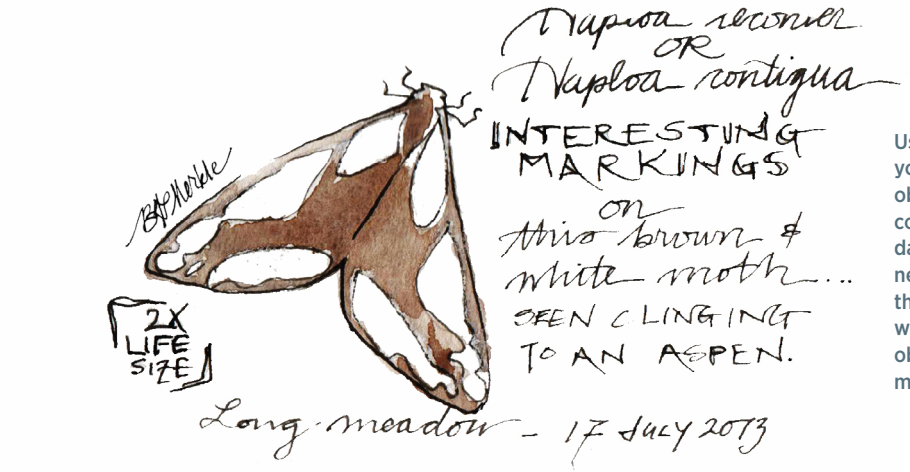
Imagine your eye is an ant crawling along the surface of the object, and your hand is being pulled along. Draw the whole object as quickly as possible (10 to 15 seconds is plenty). Draw the object several times this way.



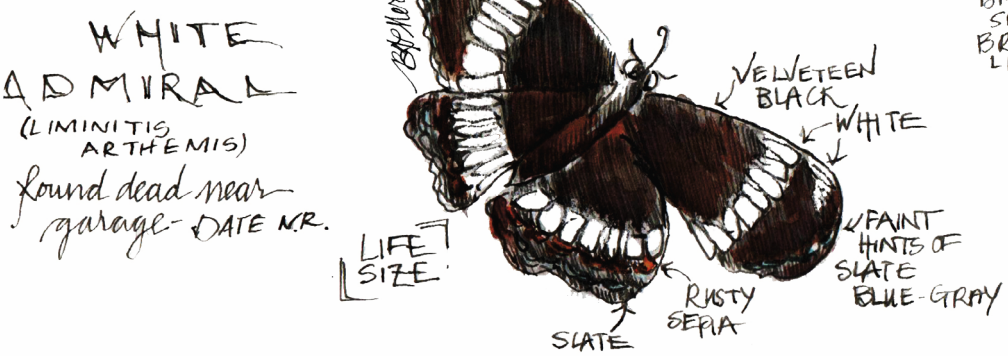
Bear in mind that what you are doing is *sketching*, not preparing a portrait for the National Gallery. Sketches, like these of a great blue heron, are supposed to look unfinished. That's okay. That's the point, in fact. You are just practicing, getting a feel for your pen, developing hand-eye coordination, and learning to see objects of nature with more intention and intensity.

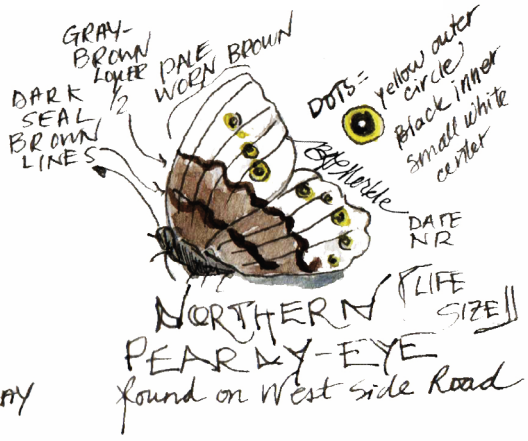
Drawing isn't magic. It's unlikely you'll be instantly good at it. Focus on drawing as a tool for noticing and learning, rather than on the technical "rightness" of each sketch.


Sandhill Cranes
GRUS CANADENSIS
WHAT DO THEY EAT?
· WHICH (♂/♀/BOTH) INCUBATE NEST?
· DO THEY TOLERATE HERONS?
· DO THEY MIGRATE N BEFORE GREAT BLUE HERONS?
CRANES GRAZING IN LONG SSW 08 MAY 2013



Use sketching as a type of conversation with yourself about nature. Jot down questions and observations—Why is this butterfly so large compared to others? How did this log get so dark on one side? How come that red squirrel never sits still? When sketching, you notice things you may have never noticed before, which naturally raises your curiosity about the object and its shape, color, and texture—not to mention what it's doing there in the first place.





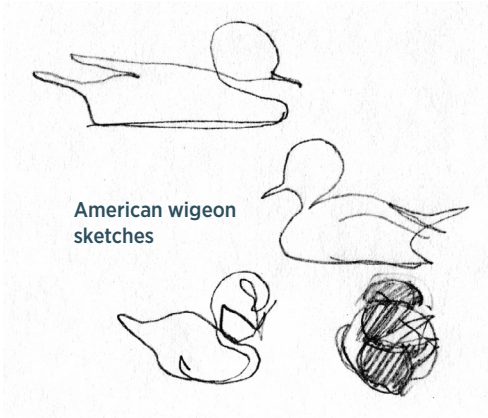
Then sketch the object a few more times focusing on the interior details, not the outline. Finally, add extra marks or scribble in a different texture to reflect places where there are shadows, differences in color, and surface texture. Don't look at your paper until you have done 15 quick sketches.

5. Trace small things.
Place a shell, seed, leaf, twig, or other small object on a piece of paper and simply trace around it. This helps you learn the basic shape and texture. If you want, you can then add details into that outline.

6. Add notes and questions.
Embrace your natural curiosity by scribbling down questions about your sketches. Like "Why is this twig so dark on this side?" or "How could this stone have a hole in it?" Consider adding notes or descriptions of color, size, shape, texture, smell, location, and more.

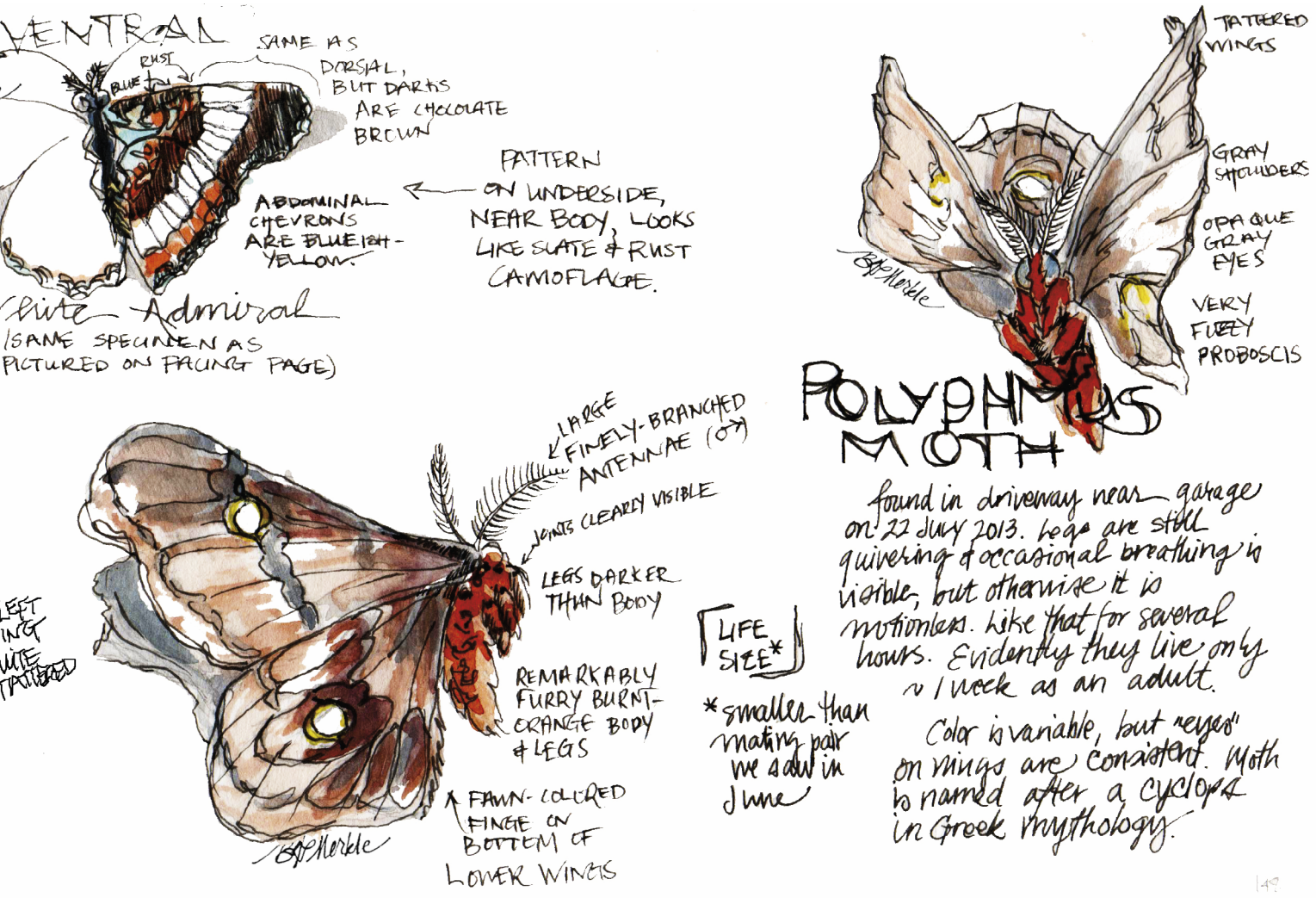
7. Add color, but sparingly.
Color can add a lot to a sketch, but it's an extra complication when you're just starting. You can simplify (and lighten your load) by adding just one color—like yellow for the petals of a yellow flower. Then move on to only two colors, like red and brown for sandhill cranes.

To get better at sketching what you see in nature, you must keep sketching. If you feel unsuccessful or frustrated, you probably won't keep at it. The techniques I've shared here take the emphasis away from "getting it perfect" and focus more on seeing and thinking—which is what nature study is all about. They also let you short-cut your way to sketches that look like you made deliberate choices. If you did it on purpose (made a lovely scribble, traced something, placed words alongside, used just one color for a pop of emphasis), you must have meant it to look that way. How delightful! Do another sketch. Hopefully, on and on you'll go, using sketching as a way to connect with more of the nuance and beauty of Montana.



American wigeon sketches

Bethann Garramon Merkle says her heart is forever in Montana, though now she teaches and studies art-science integration and science communication at the University of Wyoming in Laramie. She has taught a lot of people to use drawing as a personal and academic learning tool, and she has written about and illustrated the wilds of the Mountain West for 20 years.


VENTRAL
SAME AS DORSAL, BUT DARKS ARE CHOCOLATE BROWN
RUST
BLUE
PATTERN ON UNDERSIDE, NEAR BODY, LOOKS LIKE SLATE & RUST CAMOFLAGE.
ABDOMINAL CHEVRONS ARE BLUEISH-YELLOW.
White Admiral
(SAME SPECIMEN AS PICTURED ON FACING PAGE)
TATTERED WINGS
GRAY SHOULDERS
OPAQUE GRAY EYES
VERY FUZZY PROBOSCIS
POLYPHEMUS MOTH
found in driveway near garage on 22 July 2013. Legs are still quivering & occasional breathing is visible, but otherwise it is motionless. Like that for several hours. Evidently they live only 1 week as an adult.
Color is variable, but eyespots on wings are consistent. Moth is named after a cyclops in Greek mythology.
LARGE FINELY-BRANCHED ANTENNAE (♂)
JOINTS CLEARLY VISIBLE
LEGS DARKER THAN BODY
REMARKABLY FURRY BURNT-ORANGE BODY & LEGS
FAWN-COLORED FRINGE ON BOTTOM OF LOWER WINGS
LIFE SIZE*
*smaller than mating pair we saw in June

The author sketching in the field.

PORTRAIT PHOTO BY PRISCILLA WIGGINGTON

Helpful resources

Find additional advice and suggestions for sketching on my website: **commnatural.com/blog/categories/sketching-tip.**

▸ Nature artist and writer John Muir Laws has a website loaded with videos on how to sketch and keep a nature journal: **johnmuirlaws.com/introduction-to-nature-journaling-video/.**

▸ Books by field journal artists like Cathy Johnson, Hannah Hinchman, and Clare Walker Leslie offer advice and inspiration. Just be sure to use them as a tool, not a ruler. Don't compare yourself to them; they've been professional nature artists for decades.

Paying attention

By Tom Dickson

In the 2009 animated movie *Up*, an elderly widower is joined on an adventure by, among others, a talking golden retriever named Dug who is constantly distracted by squirrels.

"*Squirrel*!" Dug cries, then runs off in pursuit. Over and over again.

I know the feeling. It seems like we all are dogs surrounded by small scurrying mammals in the form of social media, emails, texts, billboards, and TV commercials demanding our immediate attention and asking us to like someone, buy something, or vote for this or that candidate.

Kids are especially vulnerable. At least we adults have learned to weed out some of the distractions. But a 15-year-old with a smartphone offering thousands of funny, sexy, or violent videos and memes on YouTube, TikTok, Instagram, and Snapchat? I know I would have found it hard to crack a biology textbook with all that just a click away.

For decades, doomsayers have warned that new electronic media would deaden our ability to pay attention. First it was radio. Then TV. Then the internet.

Social media, however, appears to finally be fulfilling the gloomy predictions. Test scores in math, science, and reading among 15-year-olds are declining globally, according to the Organization of Economic Cooperation and Development. ADHD diagnoses among elementary-school-age children in the United States tripled between 2010 and 2022. High school and college students report struggling to start, much less finish, a book.

Meanwhile, we adults try to multi-task and manage our time—often with apps on the very phones that distract us in the first place.

Thank goodness for bobbers and trailheads.

Offering a break from the growing demands on our attention are simple, restorative outdoor activities like fishing, wildlife watching, hiking, hunting, camping, and boating. Not only do they take us away from electronic devices and social media—often literally, because so much of the Montana backcountry has no cell service—but these activities help people of all ages learn or relearn how to focus. On a distant birdcall, or the silhouette of a raptor in the sky. On a strike indicator floating in the current. On a bouldery trail requiring deliberate foot placement, or the twitching ear of a mule deer buck bedded down in the shade of a coulee.

It's amazing what a kid with ADHD can focus on when outdoors. Staff at FWP's Montana WILD Education Center in Helena say it's common for children unable to sit still in a typical classroom to head outside and concentrate for hours on fishing or watching wildlife. Normally disruptive students will stand quietly in awe as a volunteer holds a red-tailed hawk or northern pygmy owl and explains how these and other raptors hunt and feed.

The natural world is a place where kids can learn to tune out distractions and focus on things of innate human interest, like animals, plants, and weather.

FWP helps get them and their adults out into the natural world. The department teaches outdoor skills, provides information on where and when to go, and offers tips for recreating legally, safely, and ethically.

If you or family members need to take a break from the social media din, visit the department's website and scroll around for resources that will help you find your way into the outside. If not for you, do it for a child or grandchild.

The world is increasingly full of squirrels chirping for our frayed attention. Help kids learn to ignore the chatter. Introduce them to outdoor places and activities where they can practice focusing their young minds on things that truly matter.

Tom Dickson is the Montana Outdoors *editor.*

ILLUSTRATION BY STAN FELLOWS

Cuckoo wasps

family Chrysididae

By Shane Sater

The tiny wasp shimmered between my fingertips, its hard exoskeleton glittering green and blue under the strong summer sun. I had seen the season's first cuckoo wasps in early June near a western Montana grassland stream, crawling across the ground and visiting flowers amid the profusion of early summer vegetation.

The wasps, roughly the size of rice grains, varied somewhat in appearance. But all were striking. Also known as emerald wasps, they ranged from an iridescent bright green to a deep blue-green. Some shone coppery red in the light. Back home at my computer, I learned about these tiny, often-overlooked insects and found them to be as interesting as they are beautiful.

NAMES

"Cuckoo" refers to the nest-robbing nature of these insects. (Cuckoo birds are notorious for laying an egg in another bird's nest.) Chrysididae, the scientific name of the family, refers to their shiny bodies and is derived from the Greek *chrysis* for "gold vessel."

IDENTIFICATION

Look for compact, iridescent green wasps that often play dead when disturbed, rolling into a ball. Their bodies usually have a pitted appearance, and many have a series of small "teeth" projecting from the rear of the abdomen. The veins in their forewings form a few box-like cells. Several other wasps and sweat bees are also bright green, but those species don't roll into a ball.

SPECIES DIVERSITY

The dozens of cuckoo wasp species in Montana are an impressively diverse group, each with a different life history. For more than 100 years, they were hardly known to scientists here (though they may have been familiar to Indigenous people for millennia). But over the past few decades, Mike Ivie, curator of the Montana Entomology Collection in Bozeman, and his entomologist colleagues have identified 71 different cuckoo wasp species.

Some are relatively large; others are as small as a mosquito. Details of the wing venation, facial ridges and indentations, and the structures at the rear of the abdomen can help distinguish different species.

HABITAT

Look for different cuckoo wasps in a variety of habitats, from forests to grasslands. Sometimes they visit flowers, such as cow-parsnip and goldenrod. But it's more typical to spot them on the ground. "Where I see them most is on dead wood," Ivie says.

In forested settings, it's common to find cuckoo wasps crawling along downed branches, large or small. Others frequent areas of bare ground.

LIFE HISTORY

Montana's cuckoo wasps are parasitoids—part of a diverse group of insects whose immature stages develop either within or attached to the outside of other invertebrates. When they crawl around, they are actually hunting for hosts—wasp and bee species that nest in the ground or in wood.

A female cuckoo wasp sneaks into the nest of her host and lays an egg there. When her young larva hatches, it will devour the host and whatever food is in the nest cell. The next summer, the new cuckoo wasp emerges from the stolen nest as an adult.

KNOWLEDGE GAPS

In Montana, entomologists are still figuring out how many species of cuckoo wasps live here. Little is known about these species, their hosts, and how their populations may be faring. The 71 (and counting!) species of green metallic creatures shimmering in the summer sun are great reminders of how much we still don't know about Montana's natural world. The next time you're outside this summer, look down at the ground and see if you can find one of these gorgeous little nest-stealers.

Shane Sater is a writer and field naturalist in Helena who writes the Wild With Nature blog and podcast.

FROM TOP: SAM DROEGE/USGS; SHANE SATER

THE **OUTSIDE** IS IN US ALL.

Whether it's by boating, fishing, camping, mountain biking, hunting, wildlife watching, or **tent camping under the stars,** Montana is a state where everyone can find their own special way to connect with the natural world. Around here, **the outside is in us all.** PHOTO BY KEVIN LEAGUE

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